

# Air Conditioning & Refrigeration News

The Newspaper of the Industry

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## Chicago Sales Of Room Units Set New Mark

312 Coolers Sold During  
July, 225% Over  
Last Year

CHICAGO — Setting an all-time high record for any one month in the city's history, electric room cooler sales during July totaled 312 units, an increase of 225% over the 96 units sold in the same period of last year. For the first seven months of this year, room cooler sales amounted to 717, as against 303 at the same time in 1938.

Central-plant air-conditioning systems sold in Chicago during the first seven months of the year gained 8% in capacity over the same period of 1938, but dropped in number of installations. Through July, 258 central-plant systems aggregating 3,773 hp. had been contracted for, as compared with 262 installations representing 3,499 hp. during the same months last year.

Installations made during the first  
(Concluded on Page 9, Column 5)

## Appointments

### Barnes Gets Field Post

DETROIT—Edmund B. Barnes, for the past three years a member of the Kelvinator advertising staff, has been promoted to district sales manager in the area including Cleveland, Pittsburgh, Cincinnati, Columbus, and Louisville, Ky.

The territory is a part of the east-central region, managed by Marvin S. Bandoli. Mr. Barnes will make Detroit his headquarters.

Graduated from De Pauw University in 1932, Mr. Barnes that year joined the Frigidaire retail sales organization in Cleveland, remaining for two years. He then was a retail refrigerator salesman for the May Co., Cleveland, for a year, after which he was with Electrical League of Cleveland in charge of home air-conditioning promotional plans.

### Mills Appoints Carryl

CHICAGO—Frank Carryl, veteran of 15 years in the refrigeration industry, has been named district sales manager in eight southeastern states for Mills Novelty Co.'s commercial refrigeration division.

Mr. Carryl's previous experience included association with such firms as Kelvinator, Frick, Copeland, and Norge. His work with Kelvinator was strictly of an engineering nature.  
(Concluded on Page 9, Column 3)

## Test Census In 2 Indiana Counties To Reveal Electrical Facilities

SOUTH BEND, Ind.—The Census Bureau of the Department of Commerce is testing a supplementary schedule in the special census which is now being taken in two Indiana counties (St. Joseph and Marshall).

This supplementary schedule is designed to obtain information on a national, State, or regional basis for subjects where data for small geographical units are not needed. Questions will be asked of a cross-section of the population in accordance with scientific procedures worked out by statistical experts of the Census Bureau.

Every tenth family, after answering the regular special population census questions, will be enumerated

## 2.8 Cents Per Day For Refrigeration, Home Tests Show

CLEVELAND — Average cost of only 2.8 cents per day for operating an electric refrigerator in the Greater Cleveland area has been established as a result of a series of tests conducted recently under the supervision of the Electrical League of Cleveland.

Tests were made in homes under regular use conditions, and involved models of 6 to 8-cu. ft. capacity. Individual electric meters were connected to each test unit, and the  
(Concluded on Page 9, Column 4)

## Trade-In Plan Backed By Pittsburgh League

PITTSBURGH—After a successful try-out in Philadelphia, the plan for solving the refrigerator trade-in problem involving use of a "blue book" of trade-in values and a refrigerator reconditioning service has been extended to the Pittsburgh territory.

Operating the plan here is Associated Refrigerator Plant, Inc., same organization which has charge of the reconditioning service in the Philadelphia area. The program is being sponsored by the Electric League of Pittsburgh.

At present, reconditioning of used  
(Concluded on Page 9, Column 5)

## New, Larger Machines Added By Brunner

UTICA, N. Y.—Addition of two new and larger capacity condensing units to its line—the W-20,000 (20 horsepower) and the W-25,000 (25 horsepower) models—has been announced by Brunner Mfg. Co. With these new models the Brunner line of units now covers a range of equipment from ¼-hp. to 25 hp.

While the new large units follow the general construction of other Brunner models, a number of changes in design have been incorporated, geared to the heavier type of duty for which these models are intended.

The compressor is a 4-cylinder, V-type design, with cylinders at a 90 degree angle for good balance and smooth operation.

One special feature of the new units is a suction manifold, with strainer, to prevent large particles of solder or weld from being drawn into the compressor. Suction and discharge valves are mounted in a plate assembly, and are of the low inertia high speed disc type.

An improved splash system of lubrication is employed, with large wells over the main bearings to distribute oil freely to the journals and other wearing parts. Special provision is made to insure effective return  
(Concluded on Page 5, Column 5)

## Nashville TVA Power Board Backs Down on Plan To Sell Appliances as Dealers Protest

### Tennessee First 'Public Power State' as TVA Power Goes To Cities

NEW YORK CITY—Tennessee became the first "public power" state in the nation on Aug. 15, when governmental authorities paid \$78,425,095 for electric power properties in the state in the greatest transfer of utilities from private to public ownership in the history of the United States.

Properties purchased were those of Tennessee Electric Power Co., a subsidiary of Commonwealth & Southern Corp. The purchase ended five years of political, economic, and propaganda battling between proponents of public and private ownership in the valley of the Tennessee river.

The federal-owned Tennessee Valley Authority contributed \$44,728,300 to the purchase funds, and the remainder was financed by municipalities which will be served by the system. Federal Power Commission has approved proposed credit contracts whereby the TVA will assist some of the municipalities and cooperatives to purchase their share of the Tennessee Electric Power facilities.

Commonwealth & Southern's side of the transaction was explained in a full-page advertisement published Aug. 15 in 22 newspapers from coast to coast over the signature of President Wendell L. Wilkie, and headlined "Tonight, at Midnight, we hand over our Tennessee Electric properties and a \$2,800,000 tax problem."

"We have always believed, and still believe, that the interests of the public are better served by privately  
(Concluded on Page 15, Column 3)

### Utility-Dealer Harmony Profitable In Phila.

PHILADELPHIA—A program of coordinated sales and promotion effort on the part of Philadelphia Electric Co., the Electrical Association of Philadelphia, and associated distributors, dealers, and contractors has been responsible for the sale of approximately 400,000 electric refrigerators, 44,000 electric ranges, and 23,000 electric water heaters in this territory since 1929.

In 1929, the utility company's records show, only nine out of every 100 customers had an electric refrigerator, while the number using electric ranges and water heaters was practically negligible.

Today in this territory, about 57 out of every 100 customers have an electric refrigerator, while approxi-  
(Concluded on Page 15, Column 2)

### Contract Let For Record Air-Conditioning Job

WASHINGTON, D. C.—A contract for seven centrifugal refrigerating machines to supply cooling for the new Social Security Building now under construction here has been awarded to Carrier Corp.

The installation is said to be the "largest single refrigeration installation to be made at one time for a single building in the history of the air-conditioning business." The seven refrigerating machines will supply 4,200 tons of cooling for the building's air-conditioning system.

### City Officials Say Much Added Usage Needed To Support Lowered Rates

NASHVILLE, Tenn. — Prompt, vigorous protest action by dealers and distributors here brought a reversal, in less than 24 hours, of the announced decision of the Nashville Power Board, municipal agency in charge of distributing TVA power in Nashville, to sell major electrical appliances in competition with established appliance retailers.

The power board, however, as yet has not reversed its decision to service all refrigerators, ranges, water heaters, and other appliances at the rate of \$1.00 per hour. (The power board service employees will not rebuild any equipment, however.)

This plan on servicing is meeting with strong opposition from independent refrigeration service men.

### 'No Sale' In Other TVA Cities

Two other cities in the Tennessee Valley area—Memphis and Chattanooga—last week announced they had definitely decided to stay out of the appliance merchandising field, but said they would cooperate with local dealers in sales promotional activities.

Officials of the Memphis Light, Gas & Water Division reported that they were disposing of the stock of appliances taken over through purchase of Memphis Power & Light Co., but did not plan to replace them.

Said Chairman L. J. Wilhoite of the Chattanooga Power Board: "We will leave that business open to the electrical merchants. We will retain trained technicians necessary to promote wider use of electrical equipment." He did not explain who these technicians would be or what fields they might cover.

Proprietors of service shops are protesting that since the power board will not be selling appliances, it has no business servicing them, and that they are taxpayers who may be put out of business by the direct competition of a city-operated venture.

The power board will promote the use of appliances through various types of promotion effort. "A part of the staff (said to be about a dozen men) of the group that was to form the city power board's appliance sales staff have been retained to sell the 'idea' of electrical usage. They will work under the direction  
(Concluded on Page 16, Column 1)

### Labor Asks Licensing of Wisconsin Dealers

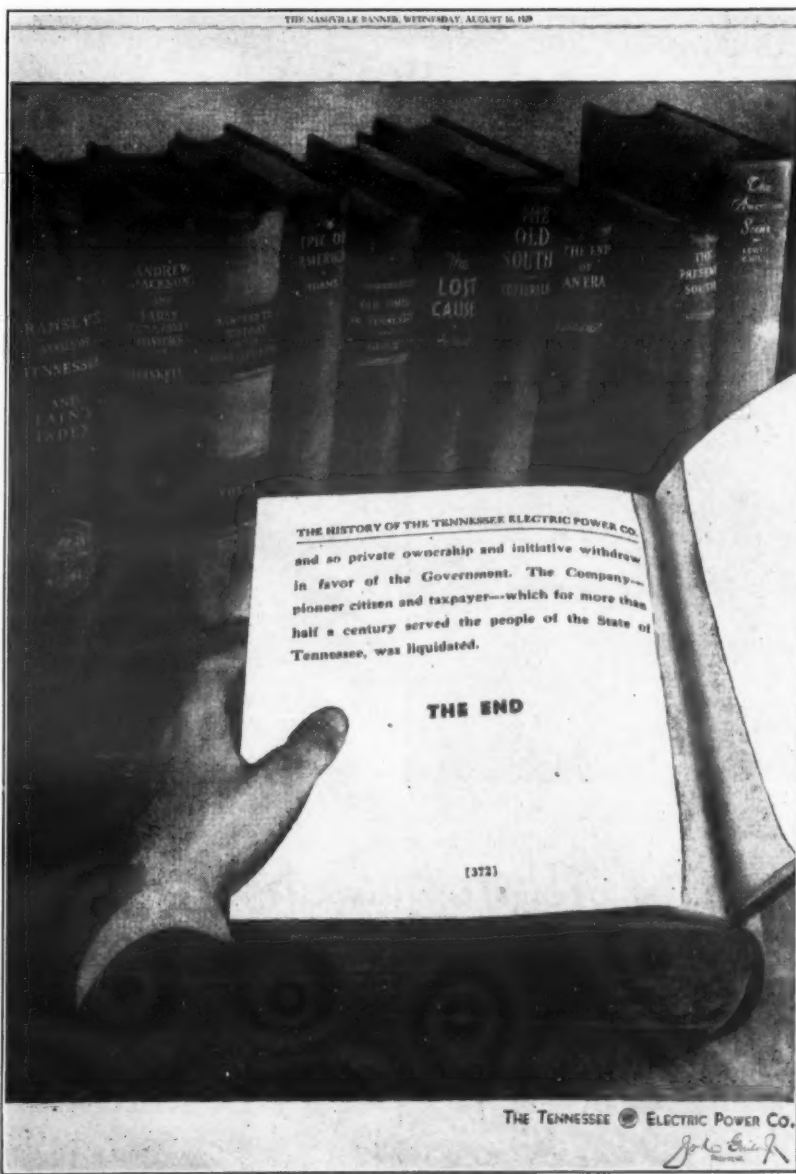
WAUSAU, Wis.—The Wisconsin State Federation of Labor at its annual convention here Aug. 17 approved a resolution to sponsor legislation which would require the licensing of retail and wholesale salesmen and dealers in the appliance and furniture business.

According to the resolution, presented by Herman J. Burbach, business agent of the Household Furniture & Appliance Sales and Service Men's Union, Milwaukee, proposed legislation would set up standards which salesmen and dealers would have to meet before being given licenses.

Legislation would also provide for revocation of licenses "if any holder thereof should engage in practices which are defined to be inimical and contrary to the best interests of the working class and the people of the state."

Observers said it was unlikely that such a bill would be presented during the present session of the state legislature.

## The Passing of a Pioneer



When the Tennessee Electric Power Co. turned over its properties to the TVA, the utility ran this eloquent and dramatic full-page advertisement in the Nashville Banner. It should rank among the great advertisements of all time.



## Analysis of Refrigerants Used In N.Y. Fair Systems

	Fair Owned	States	Countries	Exhibitors	Total	Refrig.	No. Jobs	Refrig.	No. Jobs
Number Buildings	8	2	16	49	75	"F-11"	3	"F-12"	72
Total Tons	705½	83	1,545½	645	5,656½	"F-11"	645	"F-12"	5,011½
Total Horsepower	705	92½	1,638½	805	6,108½	"F-11"	805	"F-12"	5,303½
Total Compressors	20	3	44	168	238	"F-11"	3	"F-12"	235
Pounds "Freon-12"	2,945	778	7,724	16,226	31,273	"F-11"	3,600	"F-12"	27,373
Direct Systems									
Tons	705½	83	657½	1,941½	3,387½				
Horsepower	705	92½	630½	2,027½	3,455½				
Compressors	20	3	34	154	211				
Indirect Systems									
Tons	0	0	888	1,381	2,269				
Horsepower	0	0	1,008	1,645	2,653				
Compressors	0	0	10	17	27				

## Makes of Equipment Installed To Cool Exhibits

	Fair Owned	States	Countries	Exhibitors	Number	Percent of
	Tons	Hp.	Com.	Tons	Hp.	Com.
Carrier	227	220	6	162	135	5
York	..	..	6	71½	1	450
Westinghouse	..	..	77	85	2	187
Frigidaire	..	..	..	..	..	..
Carbondale	160	150	4	..	..	..
Airtemp	..	..	..	..	..	..
Vilter	..	..	..	..	..	..
Frick	212	227½	5	..	..	..
Baker	99	100	4	..	..	..
Brunner	..	..	..	..	..	..
General Electric	..	..	..	..	..	..
Lebrun	..	..	..	..	..	..
Sabroe	..	..	..	..	..	..
Kelvinator	..	..	..	..	..	..
Servel	..	..	..	..	..	..
Merchant & Evans	..	..	..	..	..	..
Universal Cooler	..	..	..	..	..	..
Trane	7½	7½	1	..	..	..
Norge	..	..	..	..	..	..

## Reciprocating vs. Centrifugal Compressors

	"Freon-12"	"Freon-11"
	Reciprocating	Centrifugal
Per Cent of Buildings	96.0	4.0
Per Cent of Tons Capacity	88.6	11.4
Per Cent of Horsepower	88.8	13.2
Per Cent of Compressors	98.74	1.26
Per Cent of Refrigerants	98.85	1.15
Per Cent Direct Systems—Tons	100.0	0
Per Cent Indirect Systems—Tons	71.6	28.4
Horsepower per Ton	1.06	1.25
Ton per Horsepower	0.945	0.801
Average Tonnage per Compressor	21.3	215.0
Average Tonnage per Building	69.6	215.0
Pounds Refrigerant per Ton	5.46	5.58

### Garner Wants To Cool Off Before Hot Fight In '40

UVALDE, Tex.—On his return from Washington, D. C., Vice President John N. Garner announced that he is seriously considering air conditioning several rooms in his house.

### Large Hotel System Sold By St. Louis Firm

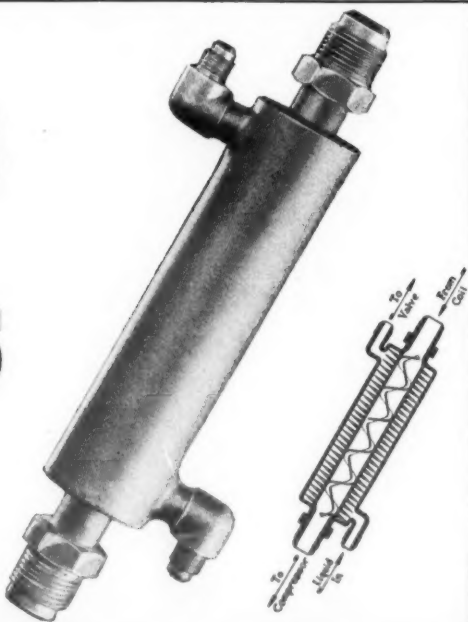
ST. LOUIS—Installation of a 120-ton air-conditioning system in the Chase hotel has recently been completed by Sears & Piou, Carrier distributor.

## PEERLESS Capacity BOOSTERS

CUTS RUNNING TIME of compressor by giving BETTER COIL EFFICIENCY.

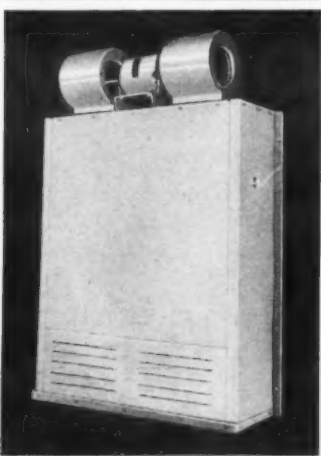
A necessity on every coil installation.

10 sizes for installations from 3,000 to 600,000 B.T.U. per hour.



## PEERLESS OF AMERICA, INC.

MIDWEST FACTORY, GENERAL OFFICES—515 W. 35TH STREET, CHICAGO  
NEW YORK FACTORY PACIFIC COAST FACTORY SOUTHWEST FACTORY EXPORT DIVISION  
43-20 34TH STREET 3000 SOUTH MAIN ST. 2218 N. HARWOOD ST. P. O. BOX 636  
LONG ISLAND CITY LOS ANGELES, CALIF. DALLAS, TEXAS DETROIT, MICH.



## Cool Without Dehydration

Due to perfect humidity control, there's no costly shrinkage of products when cooling installations include

## MARLO Unit Coolers

The result of the most advanced refrigeration engineering, Marlo Unit Coolers are not only properly designed to prevent dehydration, but are ruggedly constructed to give superior service over a long period.

Write for Bulletin No. 392.

MARLO COIL CO., 6135 Manchester Ave., St. Louis, Mo.

Canada and British Isles: Universal Cooler Co., Brantford, Ontario  
Manufacturers of Complete Line of Low Side Equipment

## 5,656 Tons Installed To Serve Buildings At New York Fair

NEW YORK CITY—A total of 238 refrigerating machines supply 5,656 tons of refrigerating effect to the 75 buildings at the New York World's Fair that are air conditioned, according to a report made by an engineer authorized by S. R. Apt, chief mechanical engineer for the Fair, to conduct a survey of the installations.

Carrier has the most refrigeration tonnage (1,425 tons) in the equipment it installed on the exhibition grounds, followed by York (777.5 tons) and Westinghouse (612 tons). Frigidaire has the most refrigeration compressors installed (46) one more than the 45 bearing the Westinghouse name and five more than Carrier's 41.

According to the survey, the 495-ton installation for the Ford company is the largest for any one exhibitor at the Fair. In second place is General Motors with 465.5 tons, and in third place is Soviet Russia's 450-ton installation.

Other data collected in the survey showed that by far the greatest number of systems were of the direct, rather than the indirect type; that 96% of the compressors were of the reciprocating type, and 4% of the centrifugal type; and that 88.6% of the total refrigeration tonnage installed used "Freon-12" refrigerant, and 11.4% of the tonnage used "Freon-11" refrigerant.

### Baltimore Distributor Moves To New Quarters

BALTIMORE—Air Conditioning, Inc., Carrier distributor-contractor, will move to new and larger quarters at 1122 N. Charles St. under terms of a five-year lease effective Oct. 1. New quarters will be air conditioned. Present address is 1117 N. Charles St.

## Air-Cooling Installations At N.Y. World's Fair

Building and Conditioning Mfr.	Compressor Tons	Hp.	No.	Type	Refrigerant
American Radiator & Standard					
Sanitary Co. (York)	3½	3½	3	Direct	"F-12"
American Radiator & Standard					
Sanitary Co. (Servel)	1½	1½	1	Direct	"F-12"
American Tel. & Tel. Co. (Gen. Elec.)	50	40	1	Direct	"F-12"
American Tobacco Co. (Westinghouse)	75	80	2	Indirect	"F-12"
Beech Nut Packing Co. (Frick)	75	75	3	Direct	"F-12"
Bethlehem Steel Co. (Westinghouse)	2	2	1	Direct	"F-12"
Borden Co. (Brunner)	30	30	2	Direct	"F-12"
Borden Co. (York)	5	5	1	Direct	"F-12"
Carrier Corp. (Carrier)	50	200	1	Indirect	"F-11"
Children's World (Vilter)	50	40	1	Direct	"F-12"
Christian Science (General Electric)	3	3	6	Direct	"F-12"
Chrysler (Airtemp)	275	305	5	Direct	"F-12"
Consolidated Edison Co. (Carrier)	188	172½	7	110 Indl.	"F-12"
Consolidated Edison Co. (York)	11	11	3	Direct	"F-12"
Continental Baking Co. (Univ. Cooler)	11	11	2	Direct	"F-12"
Distilled Spirits Exh., Inc. (Brunner)	10	10	1	Direct	"F-12"
E. I. du Pont de Nemours & Co., Inc. (See Carrier)	*100	.....	.....	Indirect	"F-11"
Eastman Kodak Co. (York)	125	150	2	Indirect	"F-12"
Electric Utilities Exh. Corp. (West.)	169	185	5	Direct	"F-12"
Electric Utilities Exh. (Farm) (West.)	2½	2½	5	Direct	"F-12"
Firestone Tire & Rubber Co. (York)	15	15	2	Direct	"F-12"
Ford Motor Co. (Carrier)	495	605	2	Indirect	"F-11"
Gas Exhibits, Inc. (General Electric)	38	40	1	Indirect	"F-12"
Glass, Inc. (Carrier)	10½	12½	3	Direct	"F-12"
General Cigar Co. (York)	55	50	1	Direct	"F-12"
General Electric Co. (General Electric)	55	55	3	Direct	"F-12"
General Motors Corp. (Frigidaire)	465½	531½	44	Direct	"F-12"
B. F. Goodrich Co. (York)	5	5	1	Direct	"F-12"
H. J. Heinz Co. (Brunner)	15	15	1	Direct	"F-12"
Household Finance Corp. (Frick)	15	20	1	Direct	"F-12"
International Business Machines (Carrier)	10	10	2	Direct	"F-12"
House of Jewels, Inc. (Frigidaire)	25	25	1	Direct	"F-12"
Johns-Manville Corp. (Kelvinator)	23	23	2	Direct	"F-12"
Link-Belt Co. (Westinghouse)	2	2	1	Direct	"F-12"
Nash-Kelvinator Corp. (Kelvinator)	20	20	1	Direct	"F-12"
National Biscuit Co. (Frick)	20	25	5	Direct	"F-12"
National Dairy Products Co. (York)	92	100	2	Direct	"F-12"
New York City (Carbondale)	250	300	2	Indirect	"F-12"
Radio Corp. of America (M. & E.)	15	15	1	Direct	"F-12"
Refreshment at the Fair, Inc. (Carrier)	27	30	3	Direct	"F-12"
Servel, Inc. (Servel)	20	20	1	Direct	"F-12"
Standard Brands (Carrier)	12½	15	2	Direct	"F-12"
Swift & Co. (Carrier)	90	90	6	Direct	"F-12"
Triangle Restaurant (Carrier)	53	41	4	Direct	"F-12"
U. S. Steel Corp. (Airtemp)	83	93	3	80 Indl.	"F-12"
Westinghouse Elec. & Mfg. Co. (West.)	93½	99½	13	58 Indl.	"F-12"
Works Progress Admin. (Carbondale)	30	32	2	Direct	"F-12"
Yale & Towne (Norge)	2	2	1	Direct	"F-12"
Timken Roller Bearing Co. (West.)	4	4	2	Direct	"F-12"
Manufacturers Trust Co. (Airtemp)	20	25	1	Direct	"F-12"
Bristol Myers (Airtemp)	15	15	3	Direct	"F-12"
A. D. Dick (York)	5	5	1	Direct	"F-12"
G. Washington (York)	5	5	1	Direct	"F-12"

\*150-ton 200-hp. compressor in Carrier building.

### Nations

Country and Conditioning Mfr.	Compressor Tons	Hp.	No.	Type	Refrigerant
Australia (Frigidaire)	50	40	1	Direct	"F-12"
Belgium (B. Lebrun)	60	60	2	Direct	"F-12"
Canada (General Electric)	1	1	2	Direct	"F-12"
Canada (Westinghouse)	1	1	2	Direct	"F-12"
Czechoslovakia (Westinghouse)	55	60	1	Direct	"F-12"
Denmark (Sabroe)	60	60	2	Direct	"F-12"
Ireland (Baker)	60	60	2	Direct	"F-12"
Finland (Airtemp)	30	30	1	Direct	"F-12"
France (Carrier)	162	135	5	Direct	"F-12"
Great Britain (Westinghouse)	58½	60	3	Direct	"F-12"
Italy (Vilter)	335	375	2	Indirect	"F-12"
Poland (Baker)	26½	25	1	Direct	"F-12"
Poland (Kelvinator)	¾	¾	1	Direct	"F-12"
Rumania (Westinghouse)	70	75	3	Indirect	"F-12"
Sweden (Carbondale)	30	30	2	Direct	"F-12"
Switzerland (Brunner)	33	33	3	Indirect	"F-12"
United States Government (Brunner)	60	65	4	Direct	"F-12"
U. S. S. R. (York)	450	525	2	Indirect	"F-12"
U. S. S. R. (Westinghouse)	2½	2½	5	Direct	"F-12"

### States

State and Conditioning Mfr.	Compressor Tons	Hp.	No.	Type	Refrigerant
Arkansas (York)	6	7½	1	Direct	"F-12"
Florida (Westinghouse)	77	85	2	Direct	"F-12"

### Fair Owned Buildings

Building and Conditioning Mfr.	Compressor Tons	Hp.	No.	Type	Refrigerant
Administration (Frick)	212	227½	5	Direct	"F-12"
Arrowbrook Club (Baker)	43	40	2	Direct	"F-12"
Music Hall (Carrier)	160	160	4	Direct	"F-12"
Perisphere (Carbondale)	90	90	2	Direct	"F-12"
Press & Postoffice (Carbondale)	70	60	2	Direct	"F-12"
Sound Studio (Trane)	7½	7½	1	Direct	"F-12"
World's Fair Headquarters (Carrier)	67	60	2	Direct	"F-12"
Terrace Club (Baker)	56	60	2	Direct	"F-12"

EXTRA VALUE

More Sales!

## Copeland

You'll sell more Copelands, because your customers GET MORE FOR THEIR MONEY! Extra features, a famous name in refrigeration, and lower prices! Quality and value to please your customers—sales and profits to please you!

Write TODAY for Full Information!

**Copeland Refrigeration Corporation**  
SIDNEY, OHIO

ASK ABOUT COPELAND COMMERCIAL REFRIGERATION AND WATER COOLERS



## PERSONALITIES

By George F. Taubeneck

### What They Say

Revival of warscore headlines in the newspapers reminds us of a "What They Say Down In Washington" column which we didn't write.

Material for this unwritten column was gathered in Washington during the first week in June, out of interviews with President Roosevelt and members of the Department of State.

Why didn't we write it? Because we didn't put much stock in it. Last spring we reported that the New Dealers were sold on the idea that there would be war in Europe by spring. Well, there wasn't.

So, when they told us that there'd be war in Europe by Sept. 15, we weren't too impressed. We recalled that Roosevelt had a new Neutrality Bill he wanted passed, just as last winter there was a Rearmament Bill on the docket.

But, without going into details, they did say that this time England would fight, that she was ready to give the Axis Powers a real battle, that her anti-aircraft defenses were in excellent shape (in particular the pipe-dream balloon network over London), that Hitler had to seize Poland and Hungary or go bankrupt, that the harvests would be all in by the end of August.

Inside information is that Webb Miller, United Press chief in Europe, says the betting is 3 to 2 against war by October; and that Bill Bullitt, our ambassador to France, says that the odds are 3 to 2 for war by Sept. 15. Miller declares that if the war doesn't get started by October, there won't be any at all.

### Isn't Worried

This brief resume is brought on by a letter just received from A. G. Lindsay, who was Crosley's export manager, and who has just returned from over there. He doesn't seem much worried, as you can see:

Richmond Hill  
117-04—85th Ave.  
New York City

Editor:

Since our earlier correspondence at the beginning of this year, I found that things were indeed much quieter than I anticipated. I thought it best to let matters rest for some time and went with my family for a visit to relations in England.

We have just lately returned and I am anxious to get into the run again. Since the early part of this year, the export business has become decidedly better, and I feel that we shall experience a further continued growth. After what I saw and heard in Europe recently (and I was in France and Belgium, too) I am not much worried about war or peace over there, consequently confident about our American export growth.

### Sam's Selling Slants

Readers of the NEWS may recall that a couple of years ago we published a series of "Sam's Selling Slants," written by Vernon Ellsworth Vining, manager of department store sales for Westinghouse. The same readers may also recall that said "slants" were marvelous.

"Sam" has a gift of vivid expression which is just as effective on the printed page as it is before audiences—and there are few men in business today who can take an audience apart and put it back together again so deftly as "Sam" Vining.

Well, anyway, "Sam's Selling Slants," including several brand-new numbers, have just been re-issued by Prentice-Hall, a publishing house which seems to score consistent hits in its business book list. It's a thin volume, it can be read at a sitting, but you'll want to read it again and again.

### Like Walt Whitman

Last slant in the book is unlike the rest of them—which are hard-hitting, highly seasoned, grandly humored peptalks to salesmen. Last slant is somewhat autobiographical and, in spots, almost poetry. It has the breath of Walt Whitman in it. Try it on your heartstrings:

sion I sold automobile polish on the streets of Columbus.

"I've loved it all.

"I've worked in factories; I've worked as a day laborer; I've punched a 'bull-point' through brick walls as an electrician's helper.

"I've slept on park benches.

"I've been both broke and 'nigger rich.'

"I've crept on my hands and knees down through the long rows of tomatoes, caressing each red, ripe tomatoe as I took it from the vine—caressing them because at the moment they were to me what the movie star calls, 'My Public.'

"When I didn't have anything else to sell, I tried to sell myself to the tomatoes.

"I've loved it all.

### 1st & Only Rule

"If I were compelled to lay down rules for having fun in this or any business, the very first and only one would be:

"Love folks.

"Did you notice I didn't say white folk, black folk, rich folk, poor folk—aristocrat, peon, intelligentsia, or low brow—I said folks. The people we live with—the people who surround us and move with us through life. The millions of people whom most of us with our pill-box minds, blinded by our own sense of self-importance, never see.

"Like the old gray mare who shied at every shadow, we go through life

with our heads reared back, our noses in the air, blinders keeping our eyes to the front;—wondering why life is dull and monotonous.

"Life has no main road with markers—life is all around us. It is the people who move in other paths that make life. Life is life itself.

"Folks—just plain folks.

"Know and love them. God made 'em. Christ died for 'em. They must be worth while.

"They came into this world squalling, howling, spotty, red brats, even as you and I—and their mothers loved them and thought them beautiful—even as you and I—but God put a spark into the least of them, and God doesn't waste the spark of life.

"Relax and love.

### 'I Yam What I Yam'

"You and I are what we are only by accident of heredity, birth, and environment. If we had been born in an oven we probably would have been biscuits and ended our short span in a bowl of gravy.

"When you begin to think of yourself as a superior being, entitled to extra respect—sit down in front of a dressing table, put your elbows on the table, your chin in your hands, and take a good long look in the mirror at your ears. I dare you.

"Love people and relax.

"All the rest will come to you—unless your idea of fun is to go

through life with you heart wrapped up like the kernel of a Chinaman's wrinkled lichi nut, or like a sticky valve or carbon knock in an otherwise perfect engine.

"There are a million other rules, but they don't amount to much. They're the Side Shows—see them all, but don't miss the Greatest Show on Earth Now Going on in the Big Top!

"And when my last sale is made, when the thrill of this life passes into the thrill of anticipation for the next, I don't want any spot of ground consecrated for me, to be marked with a gravestone reading, 'Here lies Vernon Ellsworth Vining, commonly known as 'Sam.'

### Selling Happiness

"For a monument, I'd like to leave a wee bit of happiness through the things and ideas I've sold.

"Let the doctor tend the flesh; let the priest guide the spirit; let the lawyer plead his cause;—I'm a peddler with the heart of a peddler—the soul of a peddler, and I've loved it all.

"The thoughts I have given you really came from my Dad, who taught them to me. I hope I have passed some of his philosophy on to you.

"Life, Love, Laughter are all the same thing—they are the three 'L's' spelling 'Fun' and I wish them all for you.

"Life, Love, Laughter."

## Bronze bearings that reflect research by the Bureau of Standards



Every Brunner Unit is tested for Underwriters' Laboratories Approval and Carries the U. L. Seal

It is significant that Brunner refrigeration units are protected by bronze bearings at all rotating points. For here, viewed from the standpoint of long-time service, are vital points of construction... Not relying alone on their own knowledge of bearings, Brunner engineers carefully reviewed the research findings of the United States Bureau of Standards—the methods to improve the physical properties of bearings by alloying bronze with other metals. After extensive study and practical tests, the present Brunner bronze bearings were developed—

exceptionally hard, tough, wear-resistant... This, you may say, is but a detail. We say: check other Brunner details of construction! Throughout the entire Brunner design you will find the same well-thought-out engineering, all pointing to that dependability for which the Brunner is recognized... Brunner refrigerating and air conditioning equipment includes air and water cooled condensing units from ¼ H. P. up to 15 H. P. for all types of installations. Catalog promptly on request. Brunner Manufacturing Company, Utica, N. Y., U. S. A.

The Symbol of **BRUNNER** Dependability



## Profitable Sales Ideas

### Spotting 'Specials' To Jibe With Pay-Days Speeds Up Used Refrigerator Sales

ATLANTA—Picking the right time to advertise refrigerator specials has decreased costs and increased direct advertising returns for King Hardware Co., Frigidaire and Norge dealer here.

One of the best "right spots" for advertising is right before pay days at the industrial plants, when specials in used or last year's models are featured, according to J. G. Oliver, appliance manager for the King store. Catch their eye with a bargain when they have the ready cash and you've made a sale, he believes.

Any time when a particularly good used unit is taken in trade, a notice is dropped in the paper. Besides the timed advertising on specials, a classified advertisement on used refrigerators and 1938 boxes is run every day except Sunday. January is the only month when this schedule is discontinued.

In the store Mr. Oliver displays about 30 used refrigerators that he calls "come-alongs." These are units that have been completely reconditioned by the service department and aid much in getting lookers to buy. The used boxes are sold with a

12-month guarantee, and can be returned any time within a six-month period for full value on the purchase of a new refrigerator.

Average allowance on an old refrigerator, Mr. Oliver says, is around \$40. After reconditioning, units bring in an average of \$70, which more than pays for advertising, service work, and selling costs. Careful appraisal and no attempt to up the offer of a competitor on trades provides the control.

When a particularly tough customer on a trade-in deal is encountered, salesmen try to sell her a good used box, with the thought of getting her to take advantage of the six-month period in which it can be traded in on a new refrigerator.

Additional advertising is done in the form of letters to prospects, many of these to ice users. This spring 30,000 colored broadsides were sent out as a promotion piece for the store's appliances.

Although the store's advertising schedule is quite extensive, its costs are never allowed to run more than 4 or 5% of total sales, according to Mr. Oliver.

### Plenty of Display Room, Lots of Salesmen Is Dallas Dealer's Recipe For Profits

DALLAS, Tex.—Electric Household Appliances, Inc., General Electric household and commercial dealer here, has a big operation—and only a few simple rules of operation, according to the outline given by Manager Staehle.

Here is what Mr. Staehle gave as his "ways and means" of running the appliance business that he heads:

1. Have all of your operation under one roof. If necessary, get out of the high rent districts to achieve this. Plenty of display room for old and new boxes, and spacious quarters for service and reconditioning work, can be gained in a large store out from the central city. It can be better managed when all operations are right under the manager's hand. And your general overhead comes down.

2. "It's an electrical age," says Mr. Staehle, "so promote all appliances—than promote some more. It pays to keep all appliances right in the public eye."

3. Employ plenty of salesmen to cover the city well and often. This store has 22 men, paced by eight "Toppers."

4. Give the salesmen a chance to earn all year. All these salesmen sell all of the many appliances in the store—giving them a year around income—and they sell commercial as well as domestic equipment.

5. Use a telephone canvass. This store keeps two girls at the 'phone all day contacting prospects.

6. Use your users. The 10,000 General Electric users in Dallas are worked over and over to produce further sales.

7. Use home demonstrations—but beware of competition cutting in. Don't leave the refrigerator or range in a home more than two or three days—concentrate your selling in that period.

8. Don't neglect the chance for profit from resale of trade-ins. Buy wisely, recondition them carefully, display constantly—and advertise in classified columns of the newspapers.

9. Make your service department pay for itself and add sales through good service. This store has four service men working on the reconditioning of boxes and making regular service calls. Speed is the word here—speed, plus satisfaction.

### 'Cold Turkey' Gets the Axe—and Sales Jump 125 Units Under 'Controlled Credit' Plan

ST. LOUIS—Abandonment of cold canvassing in favor of the combined promotional force of advertising and controlled-credit selling has brought South Side Radio & Electric Co. here a 125-unit sales increase over last year, a record of nary a trade-in so far this year, and improved financial conditions all the way around, in the opinion of Ralph Crancer, president of this Frigidaire organization.

"We're convinced that cold-turkey canvassing is definitely out," says Mr. Crancer. "Like most appliance distributors, we spent a few years learning that the most we can expect from specialty canvassers is a few sales covered with misrepresentation, grief, and worries."

"For example, while using our canvassing crew we sold new refrigerators, at a price of \$125 or better, to a score of customers who were looking for \$50 used models. This was ostensibly a good job of selling up. But not one single box was ever paid for under the terms of the contract!"

"Checking back over our repossession and other bad-job items in the 'grief ledger' we found that every case was directly traceable to mismanagement of details by our outside selling force. And that's why we feel that we can do 100% better without such a canvassing crew."

Outside selling was discontinued in January, and improved conditions were almost immediately noticeable, according to Mr. Crancer. The South Side company expects to sell 700 refrigerators this year, and at the half-way mark was 125 units over quota.

The allowance formerly allotted to

outside selling now is spent on advertising. Advertisements are concentrated in local neighborhood newspapers, and have a personalized slant that has proved of real value.

For instance, one advertisement inserted in a publication circulating in a district of automobile plant workers read: "Plant Workers! We know your business is good—about time to buy that Frigidaire you've been wanting!"

The management follows industrial wage conditions very closely, and aims its advertising directly at the man who can afford a refrigerator.

The controlled credit system consists of an immediate checkup on the credit of every prospect, plus the fact that the South Side organization handles its own financing on a straight 6% basis.

When a prospect first visits the showroom, the firm immediately checks his credit fully, and turns the report over to the salesman who handled the contact. When the prospect makes a second call, the results of this credit survey are presented to him honestly and openly.

If Mr. Crancer feels that the man can afford a better box than the one in which he has evinced an interest, an attempt is made to sell him up. If not, the company simply completes the sale for whatever box the prospect has in mind. The same policy is employed with prospects for used merchandise.

As a result of this new operating setup, the South Side company has been selling two out of every 10 prospects who visit the firm's showroom, Mr. Crancer reports.

### Direct-Mail Solves Sales Problem

#### Neighborhood Dealer Finds It So Effective That He Builds Whole Promotion Program Around It

JENKINTOWN, Pa.—A systematized program of direct-mail advertising is the answer to the sales problem of the dealership located adjacent to a large city, says appliance dealer W. J. Pickwell.

Believing that keeping up morale is nothing more than keeping busy, Mr. Pickwell uses his spare moments in working of direct-mail promotional plans. A large part of the company's sales in recent years, he avers, is traceable to just such efforts—and direct-mail has been developed to where it is now the basis of the firm's promotional work.

"From an advertising angle, we have the same problem that is common to the small appliance dealer who is located adjacent to a large city," he says. "Large city newspapers carry the full-page advertisements of large stores."

"These stores find it profitable to use newspaper copy, but the small suburban store, whose trade area is limited to maybe 2,000 families, would be wasting its money by paying for newspaper advertising that reaches the entire metropolitan area. Direct mail is the best bet under such conditions."

Mr. Pickwell's mailing list is not merely a certain number of names. The names are classified, each card indicating the type of prospect or customer, appliances owned or those in which he is interested. If personal contacts have been made, the card bears a notation showing the name of the salesman and his report.

This mailing list is kept up to date from day to day, so that every cent spent for postage will be a good investment. A mimeograph is used to produce sales letters, and each letter is written to appeal to one of the definite classifications in the mailing list.

For instance, a sales letter on new refrigerators is mailed only to those persons who do not have an electric refrigerator or those who are likely to be in the market for a replacement unit. A sales letter on refrigeration service goes only to persons listed as owners.

"Postage is our major expense on direct-mail work," Mr. Pickwell said. "We do not employ any special office helpers, because we work on direct mail only during those periods when there would be little else to do."

## Book Review

### "Tested Public Speaking"

"Tested Public Speaking." Author: Elmer Wheeler. Publisher: Prentice-Hall, Inc., 70 Fifth Ave., New York City. Pages: 173. Price: \$2. Review by: Robert M. Price.

Here's a book that gives a tested formula on how to make public speeches click. It shows by example and explanation how to make your audience take notice—and not take thankful leave. It's the "sizzle" in your speech that puts it over with a bang, says the author. What's a sizzle? He calls it the core of the speech, the point of the argument—the reason you are talking.

In picking out the core of the speech, he advises embryo spellbinders to get the point of view of the audience, what they want, what interests them. And, when you've picked your sizzle stick to it, says Wheeler, and your audience will stick with you.

Concerning practicing for the delivery of the speech, it is advised that the speech be practiced in front of a mirror, watching the movements of the hands and body. Mistakes that show up in the mirror can be rectified before the test of appearing before an actual audience is undertaken. Now, says Wheeler, bring on the audience and take off your false whiskers. Be yourself.

When he gets the speaker on the platform, the author warns him never to apologize. "Let the speech stand on both its feet and you on yours," he advises. Further platform tactics require that the speaker "start" his speech the moment he enters the speaker's circle.

When the preliminary moves are made for the speaker, the book carries on into the revealing of different tricks and sure-fire methods of giving the audience words and gestures that add up to effective delivery. Salesmanship, choosing the right word for the right situation, inserting provocative questions into the speech, and dressing to pull attention away from yourself to your speech are some of the suggestions advanced.

A speaker can be too good for his audience, according to Wheeler, as he advises that the speaker forget about being a tin god and be a human being. The voice, too, is a point that comes in for discussion. All the expressions of pathos, passion, and supplication can be introduced into the voice and really make or break a speech, says the author. "The voice is just as important as the words you say, or the 'bouquet of flowers' that go along with 'I love you,'" is the way Wheeler gets it across.

The balance of the book is given over to helpful hints on toastmaster-ing without killing the speaker's chances, radio technique, and analyzing famous speeches to illustrate the points made by the author.

A chapter on "magic words that make people buy" takes situations from Mr. Wheeler's experiences in the selling and promotion field. The right word at the right time, mixed in with a little psychology on "who wants what," will bring sales where refusals used to be the only order of the day, the author claims.

The word and the voice in speaking on the platform or speaking to prospective customers is the tipoff to persuasive success, and Wheeler puts his own punch line in at the finish (no doubt to prove his point) — "Watch the bark that can creep into your voice—and watch the wag behind your words."



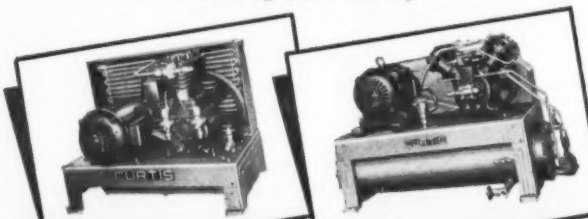
Installation of Two Curtis Store and Office Coolers in the Sonice Buffet, New York City.

**The Completeness of the  
CURTIS Line Assures the  
Correct Equipment for  
Every Air Conditioning  
or Refrigeration Need**

**W**HETHER you buy, sell, install or specify air conditioning or refrigeration equipment, there's a Curtis unit that fulfills every requirement. Curtis covers a wide range of markets—makes possible greater sales. And you can specify Curtis products with absolute confidence.

The Curtis Store and Office Cooler fulfills the air conditioning demands of all classes of retail establishments. It's a complete, factory designed, packaged air conditioning unit. It mechanically cools, dehumidifies, circulates and filters the air—is quickly and easily installed with only water and electrical connections needed—adaptable for heating, too. It is offered in 3 and 5 ton sizes.

The Curtis Line of Condensing Units includes sizes from 1/6 H.P. to 30 tons air and water cooled—also unit coolers, coils, evaporative condensers, etc. Every Curtis product is precision engineered to deliver economical, efficient, care-free performance throughout an exceptionally long life.



48 Air Cooled Units—45 Water Cooled Units  
—1/6 to 30 H.P.



**Curtis Refrigerating  
Machine Company**

Division of Curtis Manufacturing Co.

1912 Kiellen Avenue, St. Louis, Mo.

## Right on the Dot!

**Precision Data  
for  
Precision Cooling**

Rempe Bulletin No. 105 covers EXACT performance data on the 336 different Rempe Unit Coolers for all refrigerants and types of installations. Select the exactly right unit for the job. Be SURE and be SATISFIED. Bulletin Free on Request.

**REMPE  
COOLERS**

REMPE CO., 340 N. Sacramento Blvd., CHICAGO





## Commercial Refrigeration

### Cooling Finds Much Use In Waxed Paper Plant

BIRMINGHAM, Ala.—Air conditioning and refrigeration are applied to the manufacture of waxed paper for wrapping bread, as well as other food products, in a new plant recently opened here by the Southern Waxed Paper Co., which operates a half dozen plants in the South.

For the best processing results, the plant itself is air conditioned, the equipment consisting of a York 70-ton air washer system, designed to provide a year-around temperature of 70° F., with a relative humidity not exceeding 60%. It is served by a spray type cooling tower.

In addition, a 15-ton brine tank supplies cold brine (temperature 0° F. to 10°) to the printing press, waxing machine, and water cooling tank, and cold water (temperature 34 to 38° F.) to the water washer.

This company has made an exhaustive study of the value of air conditioning and refrigeration in its manufacturing processes, and has found them especially valuable in manufacturing waxed paper.

### Manual on Frozen Food Merchandising Issued

NEW YORK CITY—A new frozen foods merchandising manual which presents in word and picture the story of frozen foods from growth to ultimate consumption, and sets forth the many advantages claimed for the "Frostfood Display" as a means of exhibiting and selling frozen foods, has been published by the Charles Q. Sherman Corp., manufacturer of the Frostfood low-temperature display case.

Designed to give a general background knowledge of the quick-frozen food industry in general and the Sherman case in particular, the colorful wire-bound booklet of some 70-odd pages first sets forth the difference between ordinary freezing and the rapid freezing process used in the preparation of modern frozen foods.

From that point, the story moves forward through growth of the products, preparation for freezing and the actual freezing process, packaging, shipment, merchandising, and preparation for the table.

### System For Combined Cheese Plant & Locker Layout Has Cross-Connected Compressors

GREENWOOD, Wis.—A "cross-connected" installation of two low pressure refrigerating machines has been made for a combination cheese storage and refrigerated locker plant job in the Pine Grove Cheese factory.

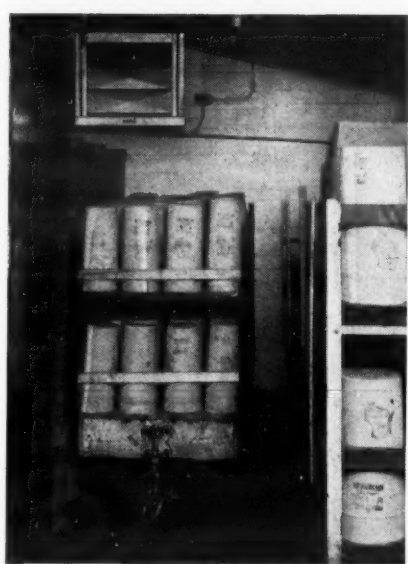
A Mills 2-hp. water-cooled condensing unit serves the locker and chill rooms; another 2-hp. Mills condensing unit furnishes refrigeration for the cheese storage room and sharp-freeze cabinet. The compressors are cross connected to prevent any losses of the stored materials in case of a possible breakdown.

The cheese storage room measures 26½ x 7 x 8 feet, and is insulated with Palco bark (8 inches in the floor and ceiling). Two Peerless model 93 synchro fan control blower units are installed, one at each end of the room. The service load runs 3,000 lbs. of cheese per day, and the storage load is 6 tons. Temperature is held from 40 to 45° F. and humidities up to 85% are said to be held.

Locker room is 26½ x 7½ x 9 feet. It is insulated with 8 inches of Palco bark in the walls and 12 inches in the ceiling and floor. There are 75 steel lockers on one side of the room and 25 on the other. Dole cold plates (size 1 x 9 feet) are arranged in two banks of six plates each. There is one expansion valve for each bank.

The sharp freeze room has five 23 x 58-inch Dole plates arranged in a space the size of 30 x 60 x 28 inches.

The chill ante room, in which the meat is chilled before being processed and sharp frozen, and which serves as an ante room before one can get



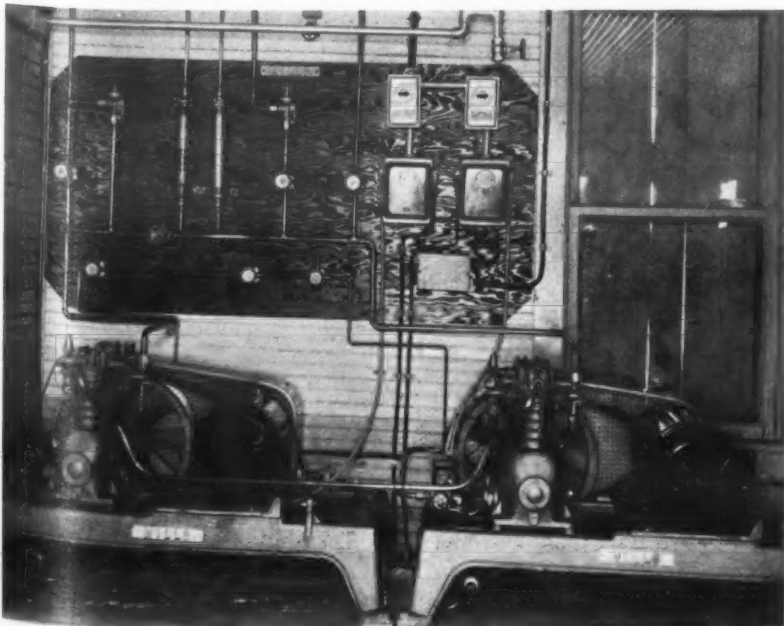
Blower unit with synchro fan control cools the cheese storage room.

into the sharp freeze and locker rooms, measures 5 x 7½ x 8 feet. Refrigeration is supplied through 75 feet of 1-inch hard drawn copper tubing. Temperatures average around 35° F.

### McCord Reports Profit

DETROIT—McCord Radiator & Mfg. Co. reports a net profit of \$31,631 for the first six months of 1939, as compared with a net loss of \$166,808 for the corresponding period of 1938.

### Designed To Meet All Emergencies



"Neat and complete" is this installation of two compressors, cross connected to handle any possible emergency that might endanger the perishables in the locker storage section of the cheese plant which this system serves. Note the excellent control and valve panel board.

### Supplants Lake Ice



For three years Harold Moloney, Frigidaire's commercial sales manager in Michigan (shown above with his son Jimmy) tried to sell his brother Ed, jovial host of famed Top-in-a-Bee hotel in Michigan's resort country, refrigeration equipment. But Ed had a whole lake full of natural ice right at his front door every winter, which he'd saw up and store in an old ice house. He thought this was pretty cheap. Last month, however, Ed got to figuring up his

losses on meat spoilage, and decided he'd save money by buying a Frigidaire system. So Harold came up and installed a 1-hp. compressor with two blowers and separate expansion valves for each, to take care of the two walk-in coolers. A separate system handles the beverage cooling.

### Patent Commissioner Rules For Coolerator

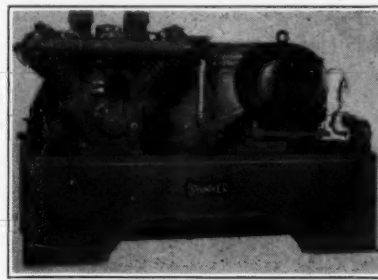
WASHINGTON, D. C.—Coolerator Co. is entitled to registration of the mark "Coolerator," displayed within a circle, for use on ice refrigerators, notwithstanding the existing registration to Kelvinator Corp. of the mark "Kelvinator," applied to mechanical refrigerators, Assistant Commissioner of Patents Frazer ruled last week.

Objection to registration of the Coolerator mark had been entered by Kelvinator. Decision in favor of the ice refrigerator firm was made on the grounds that the two marks are not similar enough to be confusing.

### Westinghouse Names Cox To Midwest Post

ST. LOUIS—John C. Cox, Jr. has been appointed merchandise manager for the midwest district of Westinghouse, succeeding John H. Boos, Jr., who died last month. Mr. Cox formerly was assistant to Mr. Boos, and has been with Westinghouse here for seven years.

### Brunner Adds To Line With Larger Units



(Concluded from Page 1, Column 2) of oil to the crankcase. Two oil level gauges—one above the other for maximum and minimum indications—provide an instantaneous check of the oil supply.

Cylinders, pistons, and connection rods are all of special cast irons, each specifically alloyed for heavy-duty service. Bronze bearings are used.

These new Brunners embody what the company's engineers call an improved crankshaft design, with two connecting rods on one crank pin. The crankshaft is of special heavy construction, made of high grade nickel molybdenum forged steel, heat-treated and hardened, for wearability.

Condensers are of the shell-and-coil type, specially arranged to provide effective condensing through lowered head pressures and the maximum degree of "sub-cooling" of the liquid. The tubes are designed with suitable manifolds to afford sufficient passage area for water to flow without undue pressure loss.

## THE SERVICE SONG

BY HENRY

(To the tune, "Put On Your Old Grey Bonnet")

Like to hear those dollars rustle?

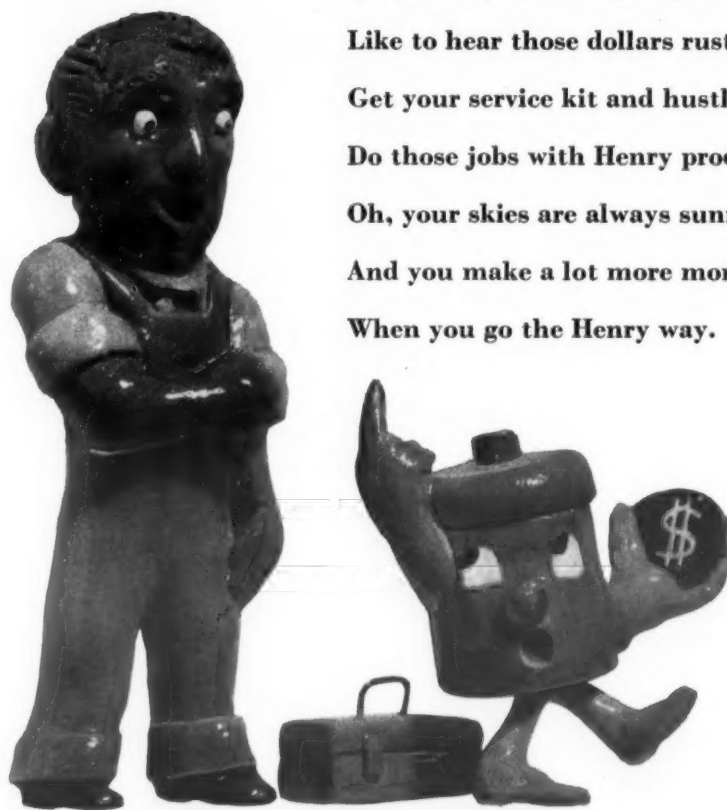
Get your service kit and hustle,

Do those jobs with Henry products every day!

Oh, your skies are always sunny,

And you make a lot more money,

When you go the Henry way.



## HENRY VALVE COMPANY

1001-19 NO. SPAULDING AVENUE, CHICAGO, ILLINOIS

Most Complete Line of Dryers, Strainers and Large Line Valves . . . Also Ammonia Valves and Forged Steel Fittings



# Locker Storages

## Generalized Advice on Locker Plant Construction & Operating Procedure Offered By Tenn. Meat Specialist

Refrigerated locker storage plants are nothing new and different to J. C. Snow. They are, in fact, an integral part of his daily life. For in the course of his duties as meat specialist in the cooperative extension work in agriculture and home economics being carried on by the State of Tennessee, Mr. Snow has necessarily been in close contact with every such locker plant erected in the state. He also has made exhaustive studies of locker plants in the Northwest and Middle West.

Consequently, he has come to know, in detail, the "inside story" of not one but several of these plants, and on the basis of his observations he has been able to form certain general conclusions as to how the average locker plant should be built, what equipment should be used, how much it should cost, and how it should be operated.

Some of the more practical, how-to-do-it portions of Mr. Snow's vast fund of locker storage information are contained in this article.

**C**OST of a completed locker plant in a new building will average from \$25 to \$30 per locker. That is, a 300-locker storage plant—building, insulation, and equipment—will cost from \$7,500 to \$9,000.

Some locker plants operate a slaughter house in connection with their other services. Some operate a truck and go to the farms to pick up live animals. Some plants cure and smoke pork and render lard. Local conditions determine the extent of services which a plant can and should render.

If a locker plant of less than 200 lockers is established, a combination of enterprises is advisable, so labor can be divided between the various phases of the business and cost held to a reasonable figure.

As to actual construction and arrangement of the average plant:

The work room should be at the front of the building and present an attractive appearance. A full set of tools must be provided for the butcher unless he prefers to supply his own.

The butcher has much to do with the development of any locker plant. He must be skillful and have a good personality. In addition to a weekly or monthly salary the butcher may be allowed a percentage of the receipts.

### ONE BUTCHER—300 LOCKERS

After a locker has been first filled in a new plant, one butcher can look after about 300 lockers, but additional help is needed when the locker plant begins operations.

The chill room should be large enough to hold all the meat which will be hung in it, without the different pieces coming in contact with each other. This room should be

maintained at a temperature of 34° F.

The size of the plant will determine whether or not the chill room should be equipped with an overhead track. In the large plants the track is advisable, while in smaller plants hooks along the wall do very well. If a track is used it should extend out from the chill room into the work room and should be equipped with a track scale for weighing.

Some plants divide the chill room into two rooms—a small chilling room where meat is first hung until the animal heat is extracted, and a larger aging room where meat is kept until it develops tenderness and flavor.

### HEART OF PLANT

The quick-freeze room may be called the heart of a locker refrigeration plant. Since it requires a temperature of from 10 to 15° below zero it must be heavily insulated and is, therefore, expensive to build and expensive to operate. Careful study should be given to the size of this room. Since meat is not required to stay in it very long, a comparatively small room will service a big plant.

Extreme care should be exercised in locating the quick-freeze room with respect to other rooms. It is not advisable to have a door between the quick-freeze room and the chill room because the moisture from the chill room enters the quick-freeze room, causing frost to accumulate rapidly on the refrigeration coils and necessitating frequent defrosting.

The coils or pipes through which the refrigerant passes are so arranged that they form shelves. The best design appears to call for only one door in the quick-freeze room. This should probably open into the

## Summary of Refrigerated Locker Storage Plants Installed in Tennessee

Date Opened	Location	Owner	No. of Lockers Capacity	Installed	Equipment
Nov., 1937	Gallatin	Sumner County Cooperative Creamery (Coop.)	600	300	York 15-hp. 5 x 5 compressor—coil job throughout—well water for condensing—corkboard insulation.
Jan., 1938	Donelson	Donelson Locker Refrigeration Association (Coop.)	280	280	York 10-hp. 4 x 4 compressor—coil job throughout—cooling tower—Armstrong cork insulation.
Sept., 1938	Cookeville	Will Whitaker, Ice Cream Manufacturer (Private)	240	90	Baker brine spray unit in locker room—coils in freezer room—circulator in chill room.
Nov., 1938	Springfield	Jack Seymour (Private)	300	100	York 15-hp. 5 x 5 compressor—coil job throughout—well water for condensing.
Jan., 1939	Murfreesboro	Jennings Jones (Private)	1,000	200	Baker 25-hp. 6 1/4 x 6 1/4 compressors (two)—brine spray unit in locker room—wind tunnel freezer—cooling tower—Wilson Co. pressed hoghair insulation.
May, 1939	Dyersburg	Frozen Foods Locker Co. (Stock company)	500	300	Frigidaire compressors, one 5 hp. and one 3 hp.—Dole plates—Palco wool insulation.
June, 1939	Jackson	Frozen Foods Locker Co. (Stock company)	500	300	Frigidaire compressors, one 5 hp. and one 3 hp.—Dole plates—Palco wool insulation.
June, 1939	Lewisburg	Marshall County Creamery (Stock company)	500	300	York 15-hp. 5 x 5 compressor—two brine spray units for locker room—circulator for chill room—coils in freezer room—well water for condensing—Armstrong corkboard insulation.
July, 1939	Nashville	Franklin Road Super Market (Private)	660	300	Baker 15-hp., 4-cylinder, 3 1/2 x 3 1/2 compressors (two)—brine spray unit in locker room, circulator in chill room—wind tunnel freezer—cooling tower—Wilson Co. pressed hoghair insulation.
July, 1939	Brownsville	Moody & Davis (Private)	300	200	Frigidaire 5-hp. compressor—Dole plates—Palco wool insulation.
Aug., 1939	Morristown	Hamblen County Ice Co. (Private)	360	360	York 10-hp. 4 x 4 compressor—coils in locker and freezer rooms—circulator in chill room—corkboard insulation.

Illustrative of the way locker plant refrigeration for meat, fruit, berries, and vegetables is spreading in the South is the activity in the state of Tennessee. Since Nov. 15, 1937 when the first plant in Tennessee was opened at Gallatin, 10 plants have been erected in the state and five more will be added by the end of the year, according to J. C. Snow of Nashville, who supplied the information in the accompanying article. Noteworthy is the fact that most of the plants in Tennessee are privately financed, rather than being cooperative ventures. The fact that private capital is financing these plants indicates considerable faith in their investment possibilities.

feet from the floor is very convenient for passing bundles of meat from work room into freezer. The service window does not affect refrigeration temperature to any great extent.

The locker room should be planned on the basis of the number of lockers it is to contain. Since the temperature of the room must be maintained between 10 and 15° F., and since the room itself is expensive to insulate and refrigerate, no waste space should be tolerated.

In addition to the four rooms described, there may be an office, a wash room, a supply room, and a compressor room.

Automatic controls for each room are advisable, as variations in temperature cause meat under refrigeration to shrink and lose its quality.

In choosing insulation there are several points to keep in mind. How efficient is it? How long will it be efficient? Does it absorb moisture? Is it vermin proof? What will it cost to put in place? Is it resistant to fire? What is the cost of the material? Can local labor be used or must skilled labor be secured from a distance?

Lockers are generally about 18 x 20 x 30 inches in size, with about 6 cu. ft. of interior capacity. They should be made of metal which meets sanitary requirements and should be easy to clean. Capacity of the ordinary sized locker is rated by the manufacturer at 300 lbs. of meat. It is possible to get that much into

locker room or a vestibule in order to minimize heat leakage.

A service window about 2 feet square with the bottom about 3 1/2 feet one, but 200 to 225 lbs. is what they generally hold.

Prices range from \$3.50 to \$5 each for lockers delivered. Most of them are in tiers five lockers high. That means that five lockers occupy about 600 sq. in. of floor space, not counting aisle space.

Cost of operation depends on costs of power, labor, water, taxes, etc. In planning a locker plant, operating figures should be obtained from plants of the same size already in operation.

In Tennessee plants locker rental fees vary from \$7.50 to \$12.50 per year, with \$10 the most common charge. The person renting the locker has a key, and takes meat or other food out as it is needed.

Processing charges are commonly based on weight. The scale of charges at one plant is as follows:

Service	Charge Per Lb.
Chilling, wrapping, freezing.....	\$0.01
Chilling, less than 60 hours.....	0.003
Chilling, over 60 hours.....	0.005
Sausage—boning and cutting.....	0.01
Seasoning .....	0.01
Grinding .....	0.01
Chilling, cutting, wrapping, and freezing .....	0.005
Poultry—chilling, cutting, wrapping, and freezing.....	0.01

The plants that pick up and slaughter animals commonly make a flat charge per animal. Charges for curing, smoking, and rendering lard are usually based on weight. The chilling charge in some plants is small enough to make this service attractive to local meat dealers. In such cases the plant does not compete with retailers, but offers them refrigerating accommodations at a reasonable charge.

### PATRONS MOSTLY FARMERS

Patrons of locker plants in Tennessee run about 65% farmers and 35% non-farmers—that is, in towns of 3,000 to 7,000 population where the plants have been erected so far.

A common practice among Tennessee locker plant patrons is to exchange meat or to buy and sell to each other. For example:

A farmer patron brings a large beef carcass to the plant. It may weigh 400 lbs. He does not want to put so much beef in his locker so he makes arrangements to turn over some part of this beef to another farmer patron in promise for an equal amount of beef at some future time. He tells the plant butcher to charge the other patron for processing the part this person is to have.

Again, the farmer patron may sell what he does not want to a town patron or he may sell it to the plant. In the latter case the meat taken over by the plant will be sold to locker patrons who produce no meat of their own, or possibly to retailers in the town.

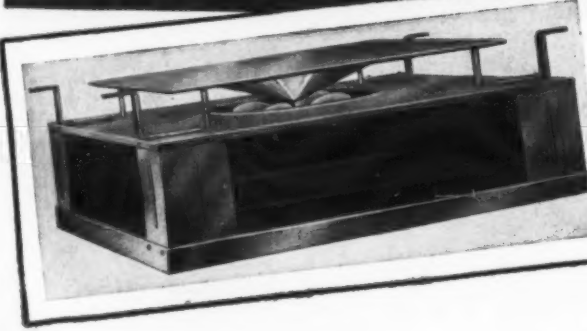
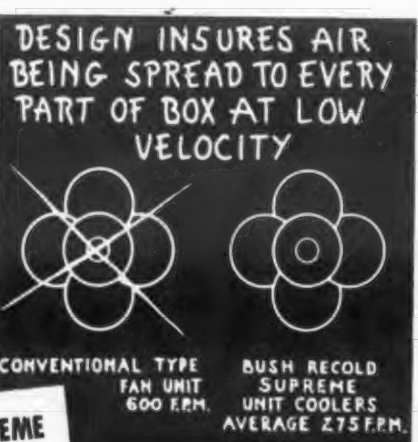
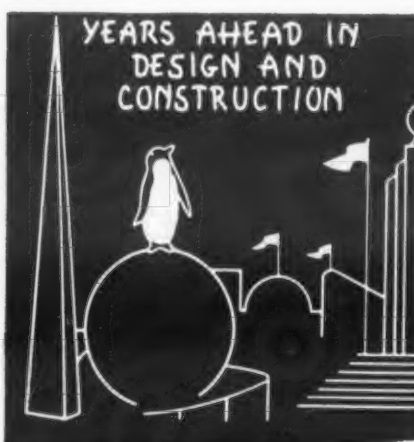
Thus a locker plant in a community tends to localize the circle of distribution with consequent improvement in quality of meat products and lessening of cost of distribution.

## Locker Firm Protects Trick Name & Slogan

MEMPHIS, Tenn. — The Name "Your Food Bank" and the slogan "Bank Your Food in Your Food Banks" have been copyrighted by Frozen Food Lockers Co. for use in connection with the refrigerated locker plants which this company is promoting throughout the South.

Already this organization, which maintains headquarters in the Chisca hotel here, has placed one 300-locker plant in operation in West Memphis, Ark., another in Jackson, Tenn., and a third in Dyersburg, Tenn. About Sept. 1 the company plans to open an even larger plant here.

President of Frozen Food Lockers Co. is J. R. Campbell.



**BUSH RECOLD SUPREME UNIT COOLERS** represent a distinct advance in forced air evaporator design—provide perfect air distribution at low velocities. Write for your copy of the new Bush catalog which describes these efficient coolers and other Bush Finned Tube Products.







# Shoes & Pants



In the inner circles of astute sales managers, there is a secret method of judging the activity of a salesman.

A secret method that should be of interest to the air conditioning industry.

It consists of a shoes-pants index which, in short, is the number of pairs of shoes a salesman wears out per pair of pants.

After the boss observes the quality of the shoes and pants and applies a small correction, the activity index is easily calculated.

Action is commonly taken as follows:

One pair of pants worn out at seat: one pair of shoes  
(Fire without further discussion.)

One pair of pants: two pairs of shoes  
(Have a serious talk with an encouraging note.)

One pair of pants: three pairs of shoes  
(Par—You've got something there, and the sales records will prove it.)

It works the other way with all strictly office workers. If they run too much, the shoes will wear out before the pants—too many visits to the "men's only"—too many visits to the lunch counter.

This secret formula is but a matter of judgment and experience. It is founded upon several horse-sense truisms which are incontrovertible:

- (1) Salesmen can't sell air conditioning sitting in their own offices wearing out pants.
- (2) Office space and equipment with which to practice the gentle art of pants wearing-out cost money.
- (3) Even a dumb salesman who works will sell more than a star who warms an office seat.
- (4) There are millions of prospects right now who will buy air conditioning if they are sold—but no one has ever tried to sell them.
- (5) Lots of bright young men are available who have a burning desire to have a job and get ahead.

GO WHERE THE PROSPECT IS AND SELL AIR CONDITIONING!

¶In order to get the most out of the activity index, a "Dispatcher" is appointed, whose duties are similar to a train dispatcher. This person has a sheet before him showing the location of every salesman, who calls the dispatcher at convenient periods to learn if there are any "hot prospects" on his line and informs the dispatcher the names of his next cold prospects. The salesman can no more get lost than a train and can be checked at any hour. ¶The dispatcher should be of the

enthusiastic encouraging type, but not given to rambling. At the end of the day, he should make up a "density sheet" for each salesman showing the number of calls, where made, and approximate duration of each call. No phone calls between the dispatcher and salesman should last over two minutes. ¶This system will cause a lot of "seasoned engineering salesmen" to quit. They will call it slavery, but the youngster who wants to make a good living will think it a wonderful game.

R. T. Carrithers, Advertising Manager

## AIR CONDITIONING & REFRIGERATION NEWS

"The Newspaper of the Industry"



## AIR CONDITIONING & REFRIGERATION NEWS

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## Is Refrigerator Selling To Be Less Seasonal?

**S**TUDY of the household refrigerator sales figures for the first six months of 1939 is as interesting as it is encouraging. In the first place, world household sales for the first half of the year total 1,473,300 units. When you consider that even the most optimistic forecasters were predicting in January that the industry could sell a million and a half units during the whole year, this first-half showing is really to be applauded.

Industry observers are also noting that this record was hung up without undue pressure on dealers. They were not loaded up as they were in the first half of 1937. Nor have there been any great waves of price-cutting. It has been a remarkably clean business.

### Sales Spread Out Well

#### On First 6 Months of 1939

Most interesting of all, however, is the fact that this year the industry seems to be succeeding as it has never succeeded before in spreading sales out over a lengthy period, rather than crowding them into two or three hectic months.

One good indication of this trend is the way in which shipments made by the manufacturers held up in June, being less than 2% below May, with Nema shipments 55.7% over June, 1938. Reports from several market areas indicate that retail refrigerator sales have been holding up amazingly well during late July and August.

The following table illustrates the variations in trend from year to year during the last five years in regard to the seasonal development of refrigeration sales:

### PERCENTAGE OF FIRST SIX MONTHS' TOTAL SALES BY MANUFACTURERS MADE IN EACH MONTH

	Jan.	Feb.	March	April	May	June
1935	8.7%	10.8%	19.3%	23.8%	22.1%	14.7%
1936	8.2%	12.2%	18.8%	21.1%	22.6%	16.6%
1937	9.8%	14.1%	20.7%	19.8%	19.6%	15.6%
1938	11.1%	15.5%	19.1%	22.7%	19.2%	12.0%
1939	10.6%	14.1%	18.0%	18.6%	19.4%	19.1%

The first figure in the table—8.7% for January, 1935—indicates that 8.7% of all the refrigerators sold by the manufacturers in the first six months of 1935 were shipped in January, and so on for the remainder of the figures. Note that the smallest spread between the peak month and the low month occurs in 1939, where the monthly percentages range from 10.6 in January to 19.4 in May.

### 1939 Has Smoothest Record Of Last Five Years

This is the only year in the last five where no month in the first six has been below 10% and no month over 20%. Furthermore, the even distribution of sales is more clearly marked during the four high seasonal months, March to June inclusive.

In 1939 the spread is only from 18.0% to 19.4%, while in all other years covered in the table there has been a marked variation between the high months and the lower months.

### Replacement Business Not So Seasonal

There are several logical reasons for this evident spreading out of profitable business through the good months and into the months that formerly found refrigeration sales in the doldrums.

In the first place, the replacement market is assuming more importance this year than ever before. This means that aggressive dealers and salesmen can find exceptionally qualified prospects in other months besides April, May, June, and July.

The owners of old boxes, who bought them eight, 10, 12, and even 14 years ago, know the values of electric refrigeration. They don't have to be sold on need.

More often than not, they are prospects for top-line, top-price porcelain-enameled refrigerators, with all deluxe features. That means added profit for dealers and distributors and larger commissions for salesmen.

### Cream-of-Market Sales

#### Can Be Made Any Time

This is the cream of the market, and these sales can be skimmed all through the year. A box that's obsolete in June and July is just as obsolete in August, September, and October—more so. Its deficiencies have showed up more emphatically than ever during the last few weeks.

The owner of that box is a great prospect right now. During the next two or three months the dealers and salesmen who recognize that fact should be able to keep their refrigerator sales on the high side.

What are the chief factors of obsolescence in these old refrigerators? They're much less efficient mechanically, and therefore less economical in current consumption and cooling capacity. That's a year 'round deficiency which costs the owner money every day the box is still in operation. The facts are just as



convincing in late summer and fall as in early summer—more so, because the season of heaviest operation has made its impression on the homemaker and her husband.

Compared to 1939 refrigerators, the old warhorses are noisy. And that's a year 'round deficiency, too, more noticeable than ever when the windows are closed and street noises shut out. Any good salesman can drive that point home just as well in October as in May.

Comparison with today's models shows that the old boxes are tremendously inferior so far as efficient use of space is concerned. The homemaker realizes this every day when she tries to store away the day's purchases. The economy of large-quantity buying, which appeals to the prospect who is using old-fashioned methods of food preservation, can be used equally well with the owners of obsolete electric refrigerators. And this space-saving, too, is an advantage of the same importance in the new models throughout the year.

### Two-Temperature Models Have Winter Selling Point

These basic selling points, together with a few others equally potent, are still among the most powerful appeals the salesman can use. The significant improvement of graded cooling in the leading 1939 models is an added sales tool that will help these replacement sales during the coming weeks. The two-temperature models are made-to-order for prospects who have become interested in quick-frozen foods, and have found that their present refrigerators are incapable of holding temperatures low enough for the preservation of these foods.

Such refinements as porcelain-enameled storage drawers for meats and for fruits and vegetables carry sales punch for the woman who has learned that she can't get along without electric refrigeration but hasn't yet brought her electrical living up to date. She should respond to these advantages just as actively now as she would have in the late spring. There's no closed season on her desire to have the latest and the best.

When there was no replacement market, the heavy drive for sales early in the year followed by a folded-arms period of six months may have made some sense, because there was a natural seasonal urge or pressure on users of ice refrigeration during the late spring and early summer.

But there's a rich section of the market to which that argument no longer applies.

### Summer Months Tough on Old Boxes—But Soften Old Customers

July and August are the months when the old boxes get their toughest workout and show the greatest signs of inadequacy. Yet some dealers and salesmen, still believing in a seasonal stop sign, begin to ease up at a time when some of their best prospects are developing.

As one salesman said, after making an exceptionally good record last October, "I operate on the principle that you may not be able to sell a man a snow shovel on Nov. 1, but after he's been through a few blizzards, he's going to be plenty ready to buy one at the end of February."

## LETTERS

### Should Used Boxes Come Under Code?

The Electric Institute  
Of Washington  
Pepco Building  
10th and E Streets N. W.  
Aug. 11, 1939

Editor:

Thank you very much for your reply of Aug. 9 to my inquiry relative to the reconditioning of boxes.

I am somewhat familiar with the Philadelphia operation, and have kept rather close track of its development and results. Something of this kind might be the answer in Washington, although we have two difficulties to overcome: several of our members are in the reconditioning business, and availability of such facilities would not of necessity mean that all reconditioned boxes would be put through this organization—there would still be a bunch of "irresponsible" repair shops offering a reconditioning service.

Have you ever heard of the supervision of reconditioned boxes as a part of a local refrigeration or safety code. There has been some thought of including supervision of reconditioned boxes under our local refrigeration code. On one hand, this may be dangerous, while on the other hand, it

might be very effective in raising the caliber of reconditioned boxes sold.

If any other procedure which appears to be effective in regulating used box sales comes to your attention, I would certainly appreciate your dropping me a note. It is to me one of the most important angles of the present day refrigeration market.

J. S. BARTLETT,  
Managing Director

### Norwegian Firm Seeks Compressors

Emaljeverket  
Postboks R. 4419  
Oslo, Norway

Aug. 1, 1939

Editor:

As we presume that your organization is highly familiar with all domestic affairs in the refrigeration industry, we take the liberty to write to you with the hope that you can give us the names of some particular firms we should like to do business with.

For our production of small household refrigerators, we should like to be provided with a cooling compressor of the sealed, or still better, of the hermetically sealed type.

Either if you could give us the name of a firm which has specialized in such compressors, or you know a producer of complete refrigerators who is willing to sell the cooling unit for export, we should be very grateful.

We should, of course, prefer a make with a good reputation and good selling points.

As we weekly read your paper, we are sure to find most of the other articles we want amongst the different advertising firms.

We shall be anxious to hear from you and thank you very much for the big favor you will show us.

Emaljeverket

### The News Is the Locker Storage Paper

E. O. Cone Co.  
Distributor  
General Electric  
Refrigerators—Appliances—Ranges  
Dishwashers—Disposals  
P. O. Box 351  
El Paso, Tex.

Aug. 10, 1939

Editor:

We have a cold storage locker plant in the process of being promoted here in the El Paso valley, and in planning and contemplating this project (which is cooperative) the series of articles in the News, beginning June, 1938, together with subsequent articles have been extremely interesting and helpful.

We should like to take this opportunity to express our keen appreciation of these articles in particular and the "News" in general. We continually find it of a value that cannot be compared with its cost.

In order for us to remain in good character as a valued subscriber, this letter must, of course, contain a request. So this is it: Is there existing a publication, of reasonable value, devoted to the locker plant business, or a publication that a locker plant company should logically subscribe to? This request is for the benefit of our (we hope) clients involved in the local project.

E. S. JAGGERS



## Service Men's Problems

### What Equipment Is Needed To Service Sealed Units?

C. A. Kimberly  
Exeter, Neb.  
Aug. 14, 1939

Dear Sirs:

I have read Manual No. 1 on household refrigeration and have ordered No. 2 and I think they are very complete and understandable. I have been reading these books with the idea in mind of taking up household refrigeration and later on commercial refrigeration. However, I see that most all the new home refrigerators have sealed units and I am wondering just how this is going to affect the servicing of these units. Is there any way to service these sealed units and what equipment would be required?

Thanking you for any information which you might give.

C. A. KIMBERLY

Answer: Some companies are now specializing on the servicing of sealed units. See Classified Advertising column.

The editors of the NEWS are now collecting data for a series of articles giving instructions on this subject.

Manufacturers of tools and equipment are invited to tell what they have to offer service men for various specialized operations on sealed units.

### RACI Graduate Spending His Money For Tools And Accessories

Paul Gogol  
16 Lockhouse Rd.  
Westfield, Mass.  
Aug. 11, 1939

Dear Sir:

I received your letter of recent date informing me that my subscription on the AIR CONDITIONING & REFRIGERATION NEWS has expired, also asking my opinion of the paper.

As for the renewal of the paper, I am sorry to state, that at the present time, I cannot afford to renew my subscription. Being a recent graduate of the R.A.C.I., I have secured a position in my locality in the air conditioning and refrigeration field which compels me to supply myself with tools and accessories, leaving very little money to spend.

The NEWS is very nicely edited, containing very useful and valuable information. I would like to see in the paper a little more about air conditioning such as estimation on air-conditioning equipment, calculating duct sizes, depth of coils in direction of airflow, how an increased number of tubes affect both latent and sensible heat, and ratio of primary to secondary surfaces, and the like.

Hoping to see some of the above mentioned items in your paper, I remain an admirer of the NEWS.

PAUL GOGOL

Answer: Thanks for your comments and suggestions. We'll look for your renewal a little later. Tell us about some of your experiences in your new job.

### School Salesmen 'Throw It A Bit Too Heavy'

503 West 178th St.  
New York City  
Aug. 12, 1939

Dear Sirs:

I appreciate your interest you have shown in me. But right now I am unable to renew my subscription. In a month I hope to be working again and able to take care of it.

I have been following with great interest letters sent in by graduates of various air-conditioning and refrigeration schools. I am also a graduate of one of them—the R.A.C.I. As many of them—the graduates—that I have kept either in touch with or have heard of, they all feel the same way

about the schools. The salesmen of the organizations throw it a bit too heavy. There just does not seem to be any opening in the industry at a half decent salary. And the hours that are to be put in are far from the regular 8-hour day.

I'm still in the electrical line and expect to stay in it. To the others I wish plenty of luck because they certainly will need it.

And to you—a grand paper of the industry—I wish a pleasant and a successful future.

G. WAINIKAINEN

### Experienced Electrician Seeks Advice

Bloomfield, Neb.  
Aug. 8, 1939

Gentlemen:

I am interested in Air Conditioning and Refrigeration and would like very much to get into this line of work.

What would you advise me to do—take a mail order course or could you give me the names of some good books which would do me just as much good?

I would like very much to get some factory work for a few weeks as I think I could learn so much more and faster.

I am an electrician working on the Cedar Knox R.E.A. I have had about 14 years electrical experience.

Thanking you in advance for this and anything that you may offer me in the way of information.

C. W. TOMPSETT

### Experienced Man Wants Job In Honolulu

4107 N. Damen Ave.  
Chicago, Ill.

Editor:

I am taking the liberty of communicating with you in regards to what the conditions and possibilities are in obtaining employment in refrigeration service and installation at Honolulu.

I understand you have been there and would be able to give the desired information for which I seek.

I am a young married man (no children) 39 years of age. Have had some 15 years' experience in installing and servicing both commercial and domestic refrigerating systems. For the past 10 years I have serviced ice cream soda fountains and counter freezers. Have a complete knowledge of electrical appliances, automatic devices and controls. Own a complete set of tools and a new Dodge car.

Would appreciate knowing what the average pay rate is, your ideas on apartment or housing and living costs, etc.

Any information on your part added to the above will be gratefully received.

E. L. NELSON

### Needs Expert Service On Float Valves

Refrigeration Sales Service  
Show Room—Carroll Building  
Rhinebeck, N. Y.

Editor:

Will you please send me the name and address of a couple of good concerns who repair Frigidaire float valves. I have several of these valves and I am anxious to get them fixed as soon as possible.

WALTER F. SIEBERT



E. B. BARNES

He will direct sales for part of Kelvinator's east central district.

### APPOINTMENTS

(Concluded from Page 1, Column 1)

and he served some of the other organizations mentioned as application engineer. More recently, Mr. Carryl had been working on dealer contracts for Norge's Chicago distributor.

### Panzer Joins Copeland

NEW YORK CITY—Henry L. Panzer, commercial refrigeration and air-conditioning engineer, who for many years specialized in export work and who formerly was with Melchior, Armstrong, Dessau Co., has recently taken over the duties of export engineer for Copeland Refrigeration Corp.'s international division.

### Ryder To Head Sales Of 'Speed Queen' Line

RIPON, Wis.—Leon W. Ryder, since 1928 a member of the sales organization of Barlow & Seelig Mfg.



LEON W. RYDER

Co., manufacturer of "Speed Queen" washers and ironers, has been appointed general sales manager of that company to replace V. F. Hannon, who recently resigned. He will make his headquarters at the home office here.

Mr. Ryder formerly was sales manager of the firm's Indiana-Kentucky-Tennessee division, and during most of his years with the company he has been a top ranking man in Speed Queen sales. He has been credited with personally selling more washing machines than any other individual in the industry.

### Westinghouse Transfers C. H. Guy To Chicago

MANSFIELD, Ohio—C. H. Guy, for the past three years merchandising manager of Westinghouse in the south central district with headquarters in Birmingham, has been transferred to Chicago to succeed C. A. Dostal as merchandising manager of the northwestern district. Mr. Dostal was appointed sales manager for the Pacific Coast district.

It was also announced that the southeastern and south central districts of the company will be consolidated under the management of S. M. Davidson, with headquarters in Atlanta.

### Cleveland Study Affords Refrigerator Use Data

(Concluded from Page 1, Column 2) averages compiled over a 14-day period. In addition to the amount of current consumed, data on the number of adults and children in the family and number of meals served per day also were obtained.

Twenty homes were in the test group, all of them users of 1939 models. Size of families ranged from two to seven persons, the average being 3.85 persons per family. An average of 9.75 meals per day were served, and daily average electric current use was .8 kilowatt-hours.

To show that middle-income families still represent a lucrative market for refrigeration, the Electrical League conducted a survey of 30,800 homes, nearly all of them in this class, which revealed that 11,360 of these homes, or 37%, are without electric refrigeration.

On the basis of this survey, the League estimates that 75% of the refrigerators sold this year will be to new users, while the remaining 25% will be replacements.

In a second survey, covering cost of operation and involving a study of 220 homes, the 129 user families estimated their monthly refrigerating costs as follows: \$1 or less, 63 families; \$1.25 a month, 10; \$1.50 a month, 20; \$2 to \$3 a month, 18; no idea of the cost, 8.

Of the 91 homes without electric refrigeration, 47 guessed the cost at

\$1 or less a month, 8 guessed \$1.25, 15 guessed \$1.50, and 8 guessed from \$2 to \$3.

Third League survey aimed at discovering how often refrigerators were used for making desserts and salads. Of the 400 homes covered, 278 reported that they used their refrigerators for this purpose. Individual use ranged from daily (for 22 owners) to a maximum of four times a year (for 15).

Complete statistics indicated that the 278 units were used on the average of about four times a month for making desserts and salads.

### Reconditioning Plant Tried In Pittsburgh

(Concluded from Page 1, Column 2)

units is being handled in the Philadelphia shop of Associated Refrigerator Plant. A receiving warehouse has been established at Horton Motor Co. here, and 90-day service guarantee is being provided through Banner Electric Co.

As operated here, the plan calls for the reconditioning service to accept any single-door model up to 10 cu. ft. in size, whether or not it is in operating condition. The plant will either purchase the units at one-half the "blue-book" price, or recondition them with a 90-day guarantee for \$20, plus freight to Philadelphia and return. This latter charge is about \$5.

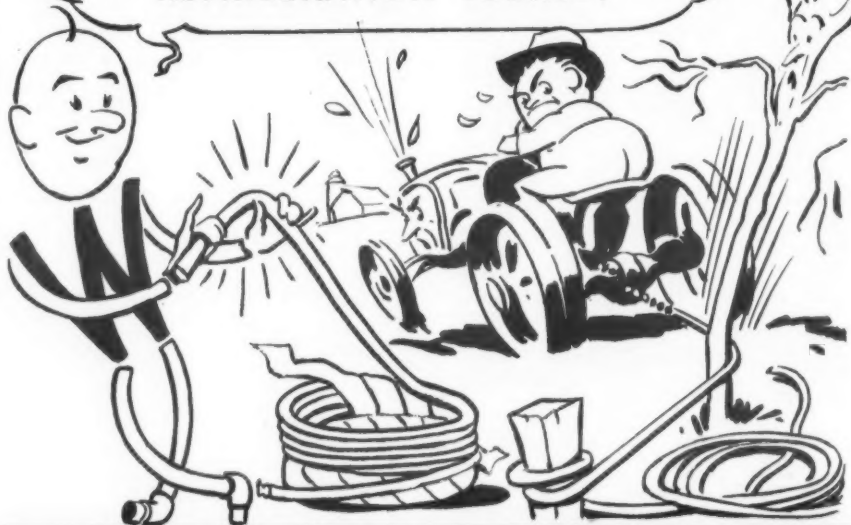
In addition to giving dealers a shot at the low-income market, the program is designed to enable retailers to handle used refrigerators with a double profit—the first on trade-in and the second on re-sale.

### July Chicago's Biggest Month on Room Units

(Concluded from Page 1, Column 1) seven months of the year were divided as follows:

Restaurants .....	77
General Offices .....	45
Drug Stores .....	33
Clothing Stores .....	14
Industrial Plants .....	14
Food Stores .....	12
Funeral Parlors .....	10
Theaters .....	7
Private Offices .....	7
Miscellaneous Stores .....	7
Fur Stores .....	5
Shoe Stores .....	5
Candy Stores .....	5
Amusements .....	5
Residences .....	3
Beauty Parlors .....	3
Barber Shops .....	2
Hotel .....	1
Hospital .....	1
Doctors' and Dentists' Office .....	1
Studios .....	1
<b>Total .....</b>	<b>258</b>

MOST REFRIGERATION SERVICE MEN DO IT LIKE THIS - IF IT'S WOLVERINE REFRIGERATION TUBING.



**WOLVERINE TUBE COMPANY**  
1413 CENTRAL AVENUE DETROIT, MICHIGAN

### SERVEL Silver Fleet



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# Air Conditioning

## Ventilation Balance Important Factor In Cafeteria System

DETROIT—Solution of a difficult problem in kitchen ventilation proved the key to the satisfactory design of a 15-ton year-around air-conditioning system recently installed in the second floor cafeteria of The Detroit News building by Atmospheric Control Corp.

It was merely A-B-C, counting-on-your-fingers work to cool a single room having a seating capacity of 150 people, but providing adequate ventilation for the kitchen, bakery, and adjoining storage room required careful study before the problem was solved.

Two entirely separate but closely coordinated systems were installed, one to provide summer cooling for the cafeteria and the other to exhaust air from the kitchen and supply an equal amount of fresh air at the same time. In winter the exhaust system from the kitchen is operated and fresh air is supplied through the cafeteria air-conditioning system, which is provided with steam tempering coils for this purpose.

For air conditioning the cafeteria a Carrier 15-ton duct-type self-contained unit was installed in a storage room adjoining the space to be cooled. Conditioned air moves to three Carrier adjustable grilles located high in the adjacent wall of the cafeteria through three ducts; one measuring 22 by 12 inches, and the other two 16 by 16 inches. Supply grilles are 50 by 9 inches.

Return air from the room is taken at a point under the center supply grille, through an opening 50 by 20 inches, just above the entrance door. Fresh air is also supplied to the conditioner through an 18 by 40-inch intake grille. This intake is equipped with a heating coil controlled by a modulating steam valve.

The 15-ton air conditioner handles approximately 6,000 c.f.m. Two 7½-ton Carrier "Freon" compressors mounted in the base of the unit operate as the load requires; one compressor is controlled by means of a Minneapolis-Honeywell thermostat located in the cafeteria; the other cycles on pressure and is controlled by a Detroit Lubricator pressure switch.

By this arrangement the compressor, which is controlled by the thermostat, may operate when there is a light occupancy load in the cafeteria, but the second compressor will cut in if the suction pressure starts to drop due to the greater demand on the coils.

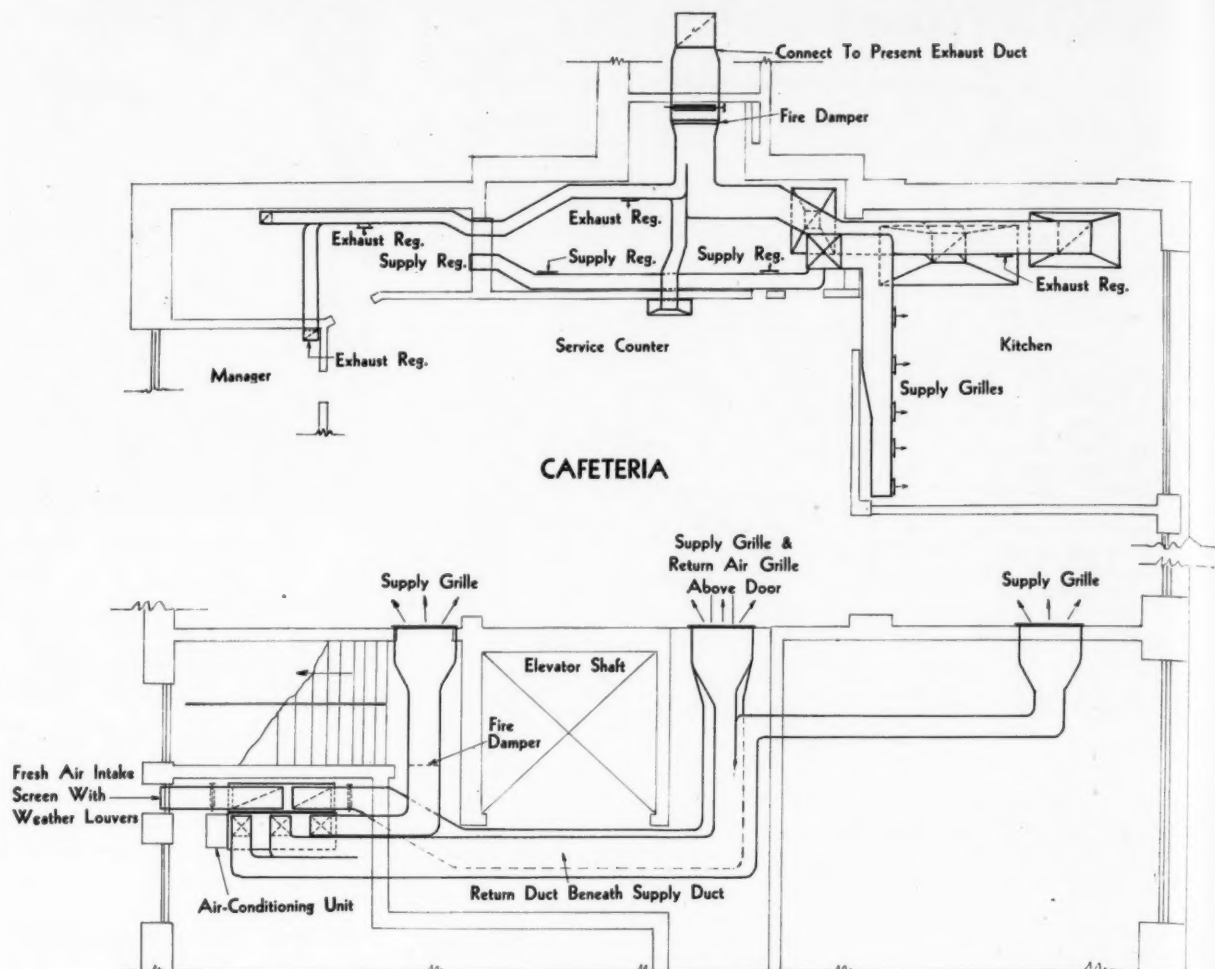
As in many cafeterias, the kitchen and bakery are open to the room through service openings above shelves behind the food counters. For this reason it was essential to ventilate the kitchen without forcing any of the kitchen air into the cafeteria, or allowing much of the cool air from the main system to escape through the service openings.

To accomplish this result a separate ventilating system was provided for the kitchen and service rooms, handling a total of 8,000 c.f.m. Air is exhausted through a hood over the stove and taken from the bakery through a 14 by 8-inch exhaust register and from the storage room and manager's office by 10 by 10-inch exhaust registers.

An equal amount of air is supplied to this section of the building through five fresh air supply grilles in the kitchen, located near the ceiling, and through fresh air grilles located in the bakery and storage room.

The summer cooling system in the cafeteria and the ventilating system in the kitchen "balance," so that

## Air Cooling and Ventilation Layout For Detroit News Restaurant



Upper diagram shows kitchen ventilating system installed to balance amounts of exhaust and supply air used. Note five supply grilles overhead in kitchen. Lower drawing is a plan view of the 15-ton cooling system. Supply and return ducts are concealed in furred ceiling of hallway.

conditioned air does not escape through the service openings.

While the system was being designed the advisability of cooling the kitchen was considered but the chef reported that he only wanted an adequate supply of fresh air, and did not want this air cooled because of the danger of cooling food which was in preparation.

During the winter the exhaust system in the kitchen is kept in operation but the fresh air is shut off, permitting all fresh air to enter through the cafeteria conditioning system.

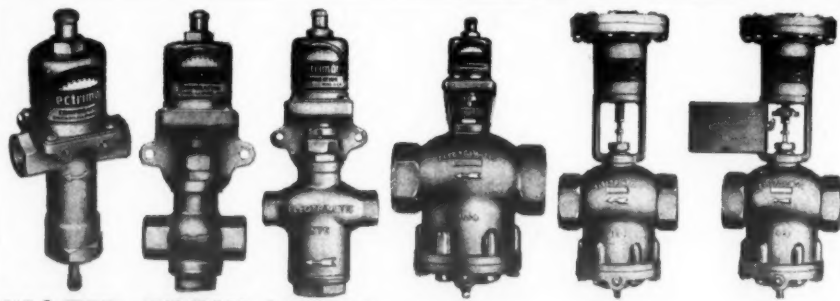
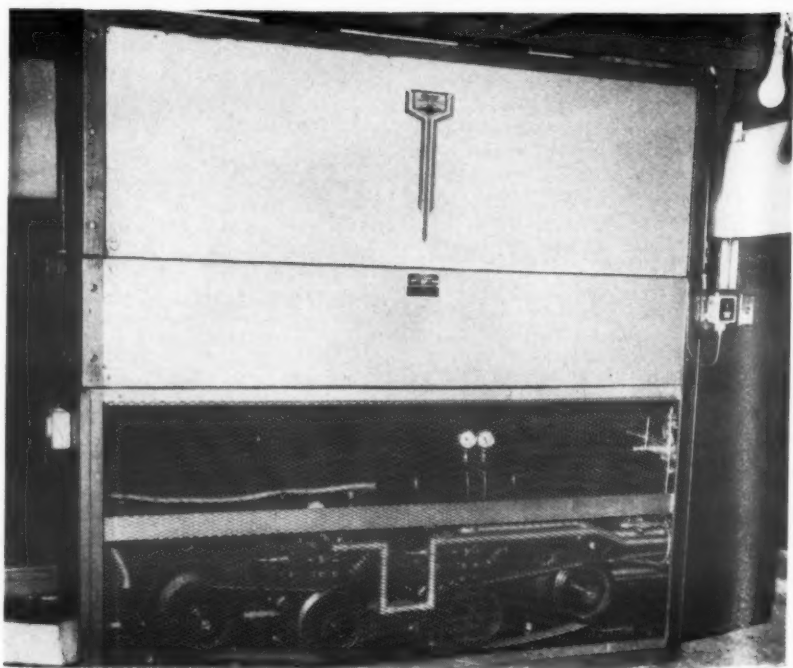
J. S. Whitcomb, manager of properties for The Detroit News, stated that the air-conditioning and ventilating systems were operating to the entire satisfaction of employees using the cafeteria dining room and that the chef was happy under his present working conditions.

The system was installed under the supervision of H. S. LeVine, president and F. S. Howarth, chief engineer of Atmospheric Control Corp., Carrier distributorship.

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# Commercial Service

## Additional Tables Aid In Selecting Correct Unit For Soda Fountain

By Arch Black and Dean C. Seitz

Table 4 gives the same information when one condensing unit is multiplexed to a creamer unit and a sandwich preparation table. The water cooling capacities shown in column 5 and 8 can only be obtained when an instantaneous cooler is used in the soda fountain.

It is sometimes necessary in the larger types of installations to multiplex one condensing unit on the ice cream refrigeration circuit and the jar enclosure refrigeration circuit. In this case the water cooler would be connected to a separate condensing unit.

Table 5 gives the proper size of condensing unit by horsepower, either air cooled or water cooled, to be used with the size of creamer unit indicated in Column 1.

Table 6 is similar to Table 5 except that one condensing unit is multiplexed on the ice cream refrigeration circuit and the jar enclosure refrigeration circuit and a sandwich preparation unit. Again it is assumed that the water cooling will be

connected to a separate unit.

Table 7 shows the proper size of condensing unit by horsepower when multiplexed on the ice cream refrigeration circuit or the jar enclosure refrigeration circuit, a sandwich table, and a maximum of 6 feet of refrigerated backbar base. The water cooling again must be connected on a separate unit.

The capacity obtained from an instantaneous cooler when a separate condensing unit is placed on it may be limited either by the capacity of the condensing unit or by the capacity of the cooler. It is rather a common error to be fooled by the capacity of the instantaneous cooler.

For example, the cooler used on the soda fountain is equipped with two coils, one of which is for city water, the other for soda water. The complete capacity of the cooler may be advertised as 22 gallons per hour. However, this really means that the capacity is 11 gallons per hour for each coil.

Since the consumption of soda

water is seldom more than 25% of the consumption of city water, the real capacity of this cooler when used on a soda fountain is 11 gallons for city water and 11 gallons for soda water. Since it is practically impossible to find a soda fountain on which the use of soda water will be the same as that of the city water, the total capacity of the cooler, as far as the soda fountain is concerned, is 11 gallons per hour, for that is the amount of city water which can be cooled.

Connecting a condensing unit to an instantaneous cooler only, the condensing unit capacity can be figured at more than 26° F. suction pressure. A slow-speed condensing unit can be used and the proper size of surge tank dead ended into the suction line.

Table 8 gives the proper horsepower of condensing units used on

a sandwich table only or on a 6-foot refrigerated back bar only.

Table 9 gives the size of condensing unit used when both a sandwich table and 6 feet of refrigerated back bar are multiplexed on one unit. It will be noted that a 1/2-hp. water-cooled condensing unit has been specified—only because the 1/2 hp. is the smallest size of water-cooled condensing unit available.

Table 10 gives the sizes of condensing units which may be used when a sandwich table is multiplexed with an instantaneous water cooler. In column 1 is given the cooling medium, whether air or water cooled. In columns 2 and 5 are given the horsepower which may be used for this purpose. Columns 3 and 6 indicate the normal speed which should be used. Columns 4 and 7 give the amount of city water in gallons per hour which can be cooled

continuously by the instantaneous cooler.

Always keep in mind that these figures are city water only. The soda water has already been deducted from the capacity, so no calculations need to be made for soda water.

Table 11 is similar to Table 10 except that one condensing unit has been multiplexed on an instantaneous cooler together with both a sandwich table and a maximum of 6 feet of refrigerated back bar base.

### How To Obtain Previous Articles In This Series

Note—The type matter for this series of articles on Soda Fountain Refrigeration is now being rearranged for publication in book form. As the pages are made up a limited quantity are preprinted and bound into folders.

The first folder (Section 1) contains 40 pages (Chapters 1, 2, and 3) and includes the articles published in November and December, 1938.

The second folder (Section 2) contains 27 pages (Chapters 4, 5, and 6) and includes the articles published in January, February, and March, 1939.

You may obtain the complete set of preprinted sections, containing all articles published to date, free of charge, by sending in a new or renewal subscription to AIR CONDITIONING & REFRIGERATION NEWS (\$4.00 per year in U. S. and Canada, Foreign rate, \$6.00 per year).

Table 8—1 Condensing Unit on Either Sandwich Table Or 6 Ft. (Max.) of Refrigerated Back Bar Base

Refrigerated Fixture 1	Cooling Medium 2	North Max. Air Temp.—85° Max. Water Temp.—80° Hp. 3		South Max. Air Temp.—100° Max. Water Temp.—90° Hp. 5	
		Speed 4	Speed 6	Speed 4	Speed 6
*Sandwich Table 4' (Max.)	Air	1/4	Normal	1/4	Normal
	Water	1/2	Normal	1/2	Normal
Back Bar 6' (Max.)	Air	1/4	Normal	1/4	Normal
	Water	1/2	Normal	1/2	Normal

\*Sometimes called Bain Marie.

†1/2 Hp. used because it is smallest water-cooled unit available.

Table 9—1 Condensing Unit on Both Sandwich Table And 6 Ft. (Max.) of Refrigerated Back Bar Base

Refrigerated Fixtures 1	Cooling Medium 2	North Max. Air Temp.—85° Max. Water Temp.—80° Hp. 3		South Max. Air Temp.—100° Max. Water Temp.—90° Hp. 5	
		Speed 4	Speed 6	Speed 4	Speed 6
Sandwich Table (4') and Back Bar Base (6')	Air	1/4	Normal	1/4	Normal
	Water	1/2	Normal	1/2	Normal

Table 10—1 Condensing Unit Multiplexed on an Instantaneous Water Cooler and EITHER a Sandwich Table OR 6 Ft. of Refrigerated Back Bar Base

Cooling Medium 1	Hp. 2	Speed 3	North Max. Air Temp.—85° F. Max. Water Temp.—80° F. Water Cooling Capacity Available Gal./hr. 4		South Max. Air Temp.—100° F. Max. Water Temp.—90° F. Water Cooling Capacity Available Gal./hr. 7	
			Hp. 5	Speed 6	Hp. 5	Speed 6
Air	1/2	Normal	6 1/2	1/2	Normal	4
Air	3/4	Normal	10	3/4	Normal	6
Water	1/2	Normal	8	1/2	Normal	5
Water	3/4	Normal	12	3/4	Normal	10

Table 11—1 Condensing Unit Multiplexed on an Instantaneous Water Cooler, a Sandwich Table, And 6 Ft. of Refrigerated Back Bar Base

Cooling Medium 1	Hp. 2	Speed 3	North Max. Air Temp.—85° F. Max. Water Temp.—80° F. Water Cooling Capacity Available Gal./hr. 4		South Max. Air Temp.—100° F. Max. Water Temp.—90° F. Water Cooling Capacity Available Gal./hr. 7	
			Hp. 5	Speed 6	Hp. 5	Speed 6
Air	3/4	Normal	8	3/4	Normal	5
Water	1/2	Normal	5 1/2	1/2	Normal	3
Water	3/4	Normal	12	3/4	Normal	8

Table 4—1 Condensing Unit Multiplexed To Creamer Unit and Sandwich Table

Creamer Unit and Sandwich Table Capacity in Gallons 1	Cooling Medium 2	Hp. 3	Speed 4	North Max. Air Temp.—85° F. Max. Water Temp.—80° F. Water Cooling Capacity Available Gal./hr. 5		South Max. Air Temp.—100° F. Max. Water Temp.—90° F. Water Cooling Capacity Available Gal./hr. 8	
				Hp. 6	Speed 7	Hp. 6	Speed 7
30 gal.	Air	1	Normal	7 1/2	1	Normal	4 1/2
30 gal.	Water	1	Normal	6	1	Normal	3 1/2
30 gal.	Water	1	Normal	10 1/2	1	Normal	7
40 gal.	Air	1	Normal	7	1	Normal	4
40 gal.	Water	1	Normal	5 1/2	1	Normal	3
40 gal.	Water	1	Normal	10	1	Normal	6 1/2
50 gal.	Air	1	Normal	7	1	Normal	4
50 gal.	Water	1	Normal	5 1/2	1	Normal	3
50 gal.	Water	1	Normal	10	1	Normal	6 1/2

Table 5—1 Condensing Unit on Ice Cream and Jar Enclosure Refrigeration Circuits Only.

(Water Cooler on Separate Condensing Unit)

Creamer Unit Capacity in Gallons 1	Cooling Medium 2	North Max. Air Temp.—85° Max. Water Temp.—80° Hp. 3		South Max. Air Temp.—100° Max. Water Temp.—90° Hp. 5	
		Speed 4	Speed 6	Speed 4	Speed 6
30 gal.	Air	1/2	High	1/2	High
30 gal.	Water	1/2	High	1/2	High
40 gal.	Air	1/2	High	1/2	High
40 gal.	Water	1/2	High	1/2	High
50 gal.	Air	1/2	High	1/2	High
50 gal.	Water	1/2	High	1/2	High

Table 6—1 Condensing Unit on Ice Cream, Jar Enclosure, and Sandwich Table.

(Water Cooler on Separate Condensing Unit)

Creamer Unit and Sandwich Table Capacity in Gallons 1	Cooling Medium 2	North Max. Air Temp.—85° Max. Water Temp.—80° Hp. 3		South Max. Air Temp.—100° Max. Water Temp.—90° Hp. 5	
		Speed 4	Speed 6	Speed 4	Speed 6
30 gal.	Air	1/2	Normal	1/2	Normal
30 gal.	Water	1/2	Normal	1/2	Normal
40 gal.	Air	1/2	Normal	1/2	Normal
40 gal.	Water	1/2	Normal	1/2	Normal
50 gal.	Air	1/2	Normal	1/2	Normal
50 gal.	Water	1/2	Normal	1/2	Normal

Table 7—1 Condensing Unit on Ice Cream, Jar Enclosure, Sandwich Table, and 6 Ft. (Max.) Of Refrigerated Back Bar Base.

(Water Cooler on Separate Condensing Unit)

Creamer Unit, Sandwich Table, 6-Ft. Ref. Back Bar (Max.) 1	Cooling Medium 2	North Max. Air Temp.—85° Max. Water Temp.—80° Hp. 3		South Max. Air Temp.—100° Max. Water Temp.—90° Hp. 5	
		Speed 4	Speed 6	Speed 4	Speed 6
30 gal.	Air	1/2	Normal	1	Normal
30 gal.	Water	1/2	Normal	1	Normal
40 gal.	Air	1/2	Normal	1	Normal
40 gal.	Water	1/2	Normal	1	Normal
50 gal.	Air	1/2	Normal	1	Normal
50 gal.	Water	1/2	Normal	1	Normal



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## Installation Engineering

### How Ranco's 2-Temperature Control Works; Recommended Installation Methods

By the Engineering Department, Ranco, Inc.

The Ranco type 91G2 control (Fig. 1) is a combination of coil and air temperature control designed to maintain proper fixture air temperature and assure defrosting of the coil under all load conditions. It consists of a simple temperature operated toggle switch having a constant cut-in characteristic and a variable cut-out.

Starting or cut-in point of the type 91G2 control is based upon the defrosting temperature of the coil. Stopping or cut-out point is based upon the fixture air temperature. Thus the control cuts in only when the coil is defrosted and cuts out only when the refrigeration requirements of the fixture are satisfied. Starting or cut-in point remains constant under all load conditions. The operating differential varies with each change of conditions to provide the correct amount of required refrigeration.

Frequent cycling is provided by the control regardless of a cold location of the compressor. Normally it cuts in at a predetermined coil temperature and cuts out at a predetermined fixture air temperature. Under abnormal conditions where the fixture

air temperature is already equal to or lower than the predetermined desired value the control will cycle on changes in coil temperature only.

Advantages of frequent cycling are that air circulation is provided during periods of light load, higher relative humidities and more uniform temperatures with a higher average coil temperature, elimination of the usual pressure control seasonal adjustments on all portions of any refrigeration system controlled by the type 91G2.

An adjustment knob on the outside of the control provides accessible means for the customer to make limited adjustments of the fixture temperature without affecting the defrosting of the coil.

Fig. 1 is a schematic arrangement of the Ranco two-temperature control. The essential parts of the cut-in portion of the control that has a fixed cut-in characteristic which is governed by a predetermined temperature of the coil, are bellows "D"; lever "C"; lever "I"; toggle and spring "H"; contact "G"; and spring "F."

The cut-in point of the control is governed by the temperature at

either point K<sub>1</sub> or point K<sub>2</sub>. Point K<sub>1</sub> is usually preferred, if accessible.

Field tests have indicated that the most nearly ideal method of attaching the coiled capillary "K" to the coil, is by threading at least 24 inches of the capillary tube between fins and winding it tightly around the coils at the point where ice disappears last when defrosting. The end of the capillary tube may be hooked on a fin to prevent loosening of the capillary.

Tube "K" has a "hairpin loop" instead of the usual large bulb, to give a more intimate contact with the coil and be less affected by air temperature and to make it easier to clamp to a reverse bend of the coil. Two clamps are furnished with each control for clamping this 6-inch portion of the tube.

In Fig. 1 the parts of a temperature governed differential mechanism for the simple temperature control consist of lever "B"; spring "E"; adjustment knob "L"; and bellows "A" with tube "J."

#### RECOMMENDED MOUNTING

Note that the control should be mounted so that 24 inches or more of the tube "J" may be placed in the air stream which is to govern the cut-out, and there be supported with screw eyes. This 24-inch portion of tube "J" must always be colder than any other point on this power element. It is recommended that this tube be installed in a straight line, as shown in Fig. 3.

Fig. 1 illustrates the positions of all parts of the two-temperature control just after defrosting temperature has been reached at point K<sub>1</sub>. The control has cut-in (closed electric circuit). The fixture temperature is

Fig. 1—Operation of a Two-Temperature Control

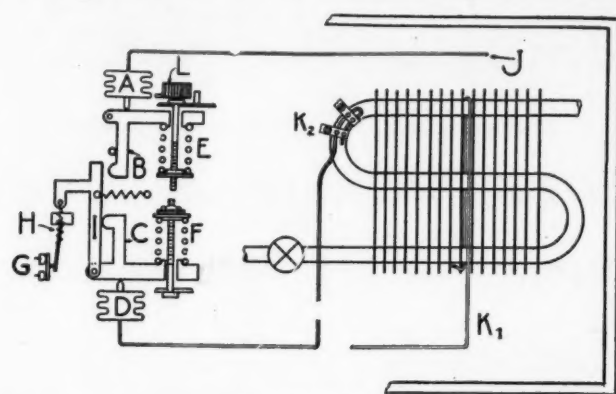


Fig. 1—Schematic arrangement of the Ranco two-temperature control. Bottom part of the control (connected to the cut-in capillary) has a fixed cut-in characteristic which is governed by a predetermined temperature of the coil. Upper part of the control (connected to the cut-out capillary) is the temperature governed differential mechanism for simple temperature control.

approximately correct, so that lever "I" is free of lever "B."

The compressor is now running. When the temperature of the coil at point K<sub>1</sub> lowers, the gas pressure in bellows "D" correspondingly lowers, allowing spring "F" to force lever "C" down, tending to make the simple temperature control cut out.

As the coil temperature lowers lever "I" moves over toward lever "B." At the same time the fixture temperature lowers, reducing the pressure in bellows "A." Lever "B" may then back away from its stop and lever "I," but due to the comparatively rapid lowering of the coil temperature, lever "I" overtakes and is retarded by lever "B." Therefore, lever "B" must move back far enough to permit lever "I" to open the switch contacts or the control cannot cut out.

Remember that the movement of lever "B" is determined by the fixture temperature and until the fixture is lowered to its proper temperature, lever "B" remains in the way of lever "I" but permits the control to cut out as soon as the predetermined desired fixture temperature is reached.

#### METHOD OF ADJUSTMENT

The fixture cut-out temperature may be changed easily by turning the adjustment knob "L" on the outside and top of the control. A stop limits the adjustment of the knob to one revolution, 8° F. Further adjustment is possible by removing the knob and replacing with the pointer on the opposite side of the stop.

However, the scale for knob "L" is calibrated 34°, 38°, and 42° F., which permits setting of the cut-out point anywhere between 34° and 42° F. (usually correct for display

Fig. 2—Working Parts

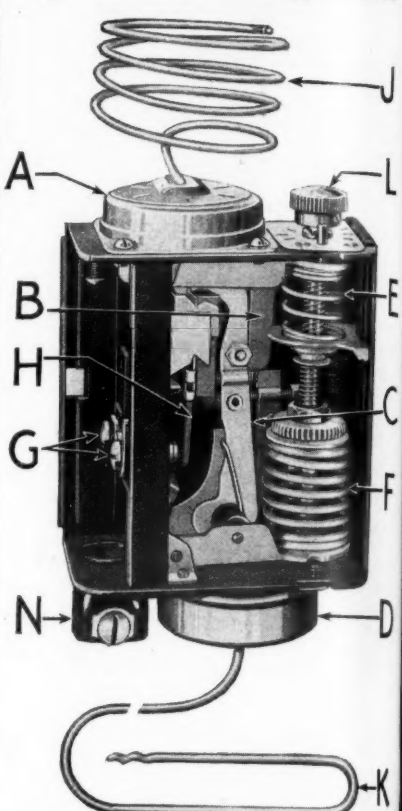


Fig. 2—Photograph of Ranco two-temperature control with cover removed. Parts are lettered to correspond with similar parts in Fig. 1.

cases and walk-in coolers) by merely turning the knob.

#### HOW TO APPLY THE CONTROL

The control must be mounted (Concluded on Page 13, Column 2)

Fig. 3—Installation In a Walk-In Cooler

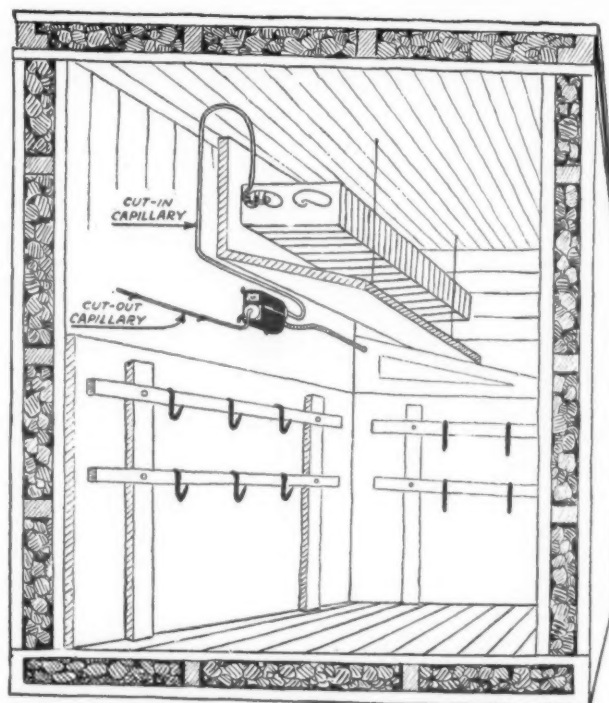


Fig. 3—How the two-temperature control is installed in a refrigerated walk-in cooler. Note that the capillary tubes are run in a straight line.

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"We are interested to read your advertisement in 'Air Conditioning & Refrigeration News' which refers to Freezing Oven, and we believe that a line of this description could be merchandised locally.

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"Would you please send us immediately details of 'Kramer' products. We are interested to see particularly the catalogue on 'Freezing-Oven' as advertised in 'Air Conditioning & Refrigeration News.'"

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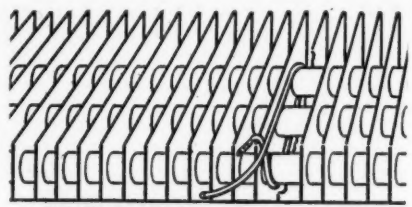


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## Methods For Installing 2-Temperature Control

(Concluded from Page 12, Column 4)  
inside the fixture when the room temperature might be lower than the fixture temperature. Remember that the temperature-responsive portions of the two power elements must always be the coldest portions of those power elements and control.

Assuming that the cut-out setting of the control is 36° F., the control must be mounted where its surround-



CUT-IN CAPILLARY—Attached to Coil

Fig. 4—The easiest and most effective method of applying the cut-in capillary tube for the Ranco two-temperature control to any coil. At least 24 inches of the capillary tube is threaded between fins and wound tightly around all of the coils at the point where ice disappears last when defrosting. The end of the capillary tube is hooked on a fin to prevent loosening.

ing temperatures will always be higher than 36°. If the surrounding temperature is lower than 36°, the control will cut out and remain cut out.

Either or both a low pressure control and high pressure cut-out are frequently a part of the compressor. These may be connected in series electrically with the type 91G2 so that the high pressure cut-out may serve its usual function, and the low pressure control may be so adjusted as to prevent pumping an undesirable vacuum.

### ON MULTIPLE UNIT SYSTEMS

On a multiple unit system having all defrosting coils fairly well balanced with respect to their heat loads, the Ranco two-temperature control used in the largest fixture to control the compressor operation, generally provides proper operation for all the units without additional equipment.

On a multiple unit system having one or more units operated at a much lower temperature than the unit containing the defrosting coil, the compressor may be operated by the control that is responsive to the temperature of the two-temperature unit, and the Ranco two-temperature control may be used to govern the operation of the defrosting coil in connection with a solenoid valve.

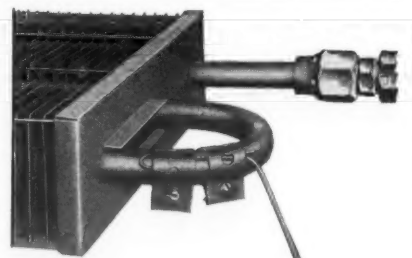


Fig. 5—An alternative location of the 6-inch "hairpin" loop on the end of the coil capillary, the attachment being to the second reverse bend from the expansion valve.

On a multiple unit system having one or more units operated at temperatures higher than the temperatures required on the defrosting coil, the compressor may be operated by the Ranco two-temperature control responsive to the defrosting coiled unit. The unit or units operating at higher temperatures may be controlled by conventional temperature controls in connection with solenoid valves.

When air temperatures are required to be so low that coils cannot defrost each cycle, the hot gas method of defrosting is no doubt the most practical. The type 91G2 control in this connection will provide accurate control of the system for the reason that the cut-in point will be held at the required coil temperature and the cut-out point will occur only when the desired air temperature is reached.

Otherwise, the low pressure control may be eliminated from any installation except a multiple unit system having one or more units operated at a much lower temperature than the unit containing the defrosting coil.

## Joseph J. Burke Dies; Brunner Mgr. in N.Y.

BROOKLYN—Joseph J. Burke, New York district manager of Brunner Mfg. Co., died Aug. 9 as a result of a heart attack suffered three days previously while he was spending a week-end vacation with his family at Ocean Beach, Long Island.

He had been associated with Brunner for 20 years, starting as sales representative in the New York territory during the time that the company's manufacturing facilities were confined to air compressors.

In 1924 he became sales manager of the company, serving in this capacity until 1933, when he returned to New York as district manager, handling both air compressor and refrigerating equipment distribution. For the past two and a half years he had specialized on the refrigeration line.

He is survived by his widow and three children, Sheila, Oona, and Joseph of 172 Emerson Place, Brooklyn, and a brother, Frank.

Mrs. Burke has asked the NEWS to convey her appreciation of the many messages of condolences she received from individuals and companies in both refrigeration and automotive industries.

## 'Test Census' May Provide Data on Appliances

(Concluded on Page 13, Column 3)  
all workers 14 years old or over. They will be asked to state their usual occupation even though at the time of the enumeration they may be employed temporarily in other types of work.

Questions to be asked in the regular population census next year will be selected after the results of the special census are analyzed.

Following are the inquiries to be made of every tenth household:

1. Does this household have a radio set?
2. Water in the home: (a) Is there running water and a bathtub or shower? or (b) Is there running water and no bathtub or shower? or (c) Is there a hand pump only inside the home? or (d) Is there no water in the home?
3. Is the home lighted by electricity?
4. If the home is owned, not on a farm, and a one-family residence, what is the total outstanding mortgage indebtedness, if any? And, what is the estimated monthly rental value?
5. For all women who are or have

been married: (a) The number of times married; (b) the age at first marriage; (c) the number of children ever born to this woman?

6. For white persons born in the United States: The place of birth of the father and mother of the person.

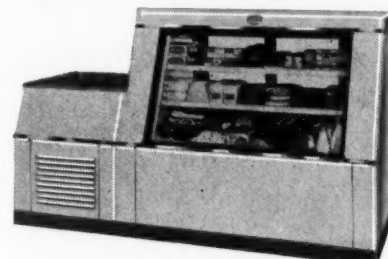
7. For foreign-born white persons: What is the person's mother tongue or native language, that is, the language spoken in the home before coming to the United States?

For persons 14 years old and over:

8. For persons at work, seeking work, or with a job, the usual occupation and industry; whether usually employed as a wage or salary worker, an employer, unpaid family worker, or usually working on his own account; if usually a wage or salary worker, whether he was employed by a private person or corporation or by a regular government agency, or on public emergency work.

## DOUBLE YOUR PROFITS

Selling  
THE PROFIT LINE FOR '39



NEW SHERER DELICATESSEN CASE

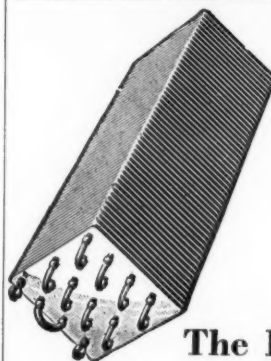
WRITE FOR CATALOG AND FRANCHISE DETAILS, MENTIONING TERRITORY DESIRED.

SHERER-GILLET CO., MARSHALL, MICHIGAN

Refrigerator and compressor sales go together. Sell both on one contract.

THE SHERER FRANCHISE OFFERS: ★Complete line of cases, coolers and boxes. ★New equipment under development opens new fields for compressor sales. ★Layout department—Store layouts without obligation. ★Advertising—Sherer advertises by mail and in trade publications.

## LARKIN REFRIGERATION PRODUCTS



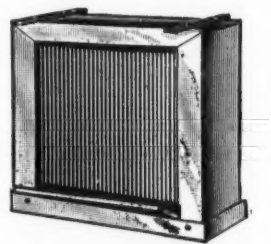
The Industry's Leading Cooling Units

"ORIGINATORS OF THE CROSS FIN COIL"  
Patent No. 1,776,235

See your local jobber or write for illustrated catalog.

Built only by  
**LARKIN COILS, INC.**

General Office and Factory  
519 FAIR STREET, S. E., ATLANTA, GA.  
NEW YORK FACTORY, 57 E. 11th St.



## "ASK YOUR GROCER"!!

ASK any merchant who sells meat or other perishable foods what it would mean to him to have constant fixture temperature in his walk-in cooler and display cases—with cooling coils always free from frost. Ask him what spoilage and shrinkage cost him every month!

Then—if you want quick sales action—tell him about the sensational new Ranco Two-Temperature Control—the single unit which assures automatic defrosting of coils and maintains constant fixture temperature—regardless of weather conditions or load! For single or multiple-unit systems. Low priced. Easily installed. And a million dollar market ready to buy!

RANCO INC., Columbus, Ohio, USA

The Exclusive  
**RANCO**  
2-Temperature  
Control 91 G 2



## WILSON BOTTLE STORAGE - TRIPLE PURPOSE -

1.  
Aeration  
of Milk

with refrigerated  
brine from the  
central compartment

2.  
Storage  
of Milk

in the two adjacent  
dry storage  
compartments

3.  
Making  
of Ice

for use on the  
delivery route,  
if desired

Three-in-one: This Bottle-Storage Cooler, with aerator and pump, makes a complete cooling and storing unit for the small retailer. For the large retailer WILSON SYSTEMS provide the Wilson Sectional Walk-In Storage Coolers in 18 stock sizes, with brine tank, aerator and pump.

GET YOUR FULL SHARE OF ALL MILK-COOLING BUSINESS

WRITE  
FOR  
DETAILS

**WILSON CABINET CORP.**

SMYRNA  
DELAWARE





## A Reporter In England

By Alfred Jones

LEEDS, England—For the most part, English housewives are not "kitchen proud" as are modern American housewives, and for this reason a lot of electric refrigerators remain unsold in England. So thinks R. V. Lillie, director of Lillie (Leeds) Ltd., distributor of Westinghouse electrical appliances in the greater part of Yorkshire.

Mr. Lillie has been to the United States, and is able to compare American homes with English homes. When an American housewife has

company, he observed, she usually makes it a point to show them her kitchen, bathroom, bedrooms, dining room, and living room. When an English housewife sees someone coming, she usually runs and shuts the kitchen door, and keeps her guest in the drawing room.

Just this difference in custom, Mr. Lillie declared, makes itself felt in the sale of household appliances.

"If the refrigerator could be installed in the living room, we'd sell a lot more than we do," said Mr. Lillie.

Refrigeration is only a part of the business of Lillie's, the firm being classed as a furnishing ironmongery (American translation—hardware store). But Mr. Lillie, son of the founder, considers the refrigeration department his "baby," and has been managing it since 1926.

Instead of salesmen and advertising, Mr. Lillie is relying on window displays, his own efforts, and the gradually increasing public interest in refrigeration to bring in sales this year.

He has noticed a rather peculiar thing in connection with window displays. Usually a display is kept in the window for a fortnight and then replaced by a display of some other line of merchandise, and Mr. Lillie has found that it is after a window display has been removed that he gets inquiries about the refrigerators. This might be due to the reputed slow reaction of the English to anything novel, or it might be that after becoming used to seeing the display, the passersby are curious when they no longer notice it.

At any rate, the window displays are effective in bringing prospects into the store, where a more elaborate display of the complete line of Westinghouse units is maintained.

### HOW SALES ARE PLANNED

Evidently Mr. Lillie doesn't go in for "wild goose chasing" when he does outside selling, for his procedure is well-planned. It's usually the woman of the house who comes into Lillie's store to ask about a refrigerator, and it's the woman who is really interested in buying a unit, but Mr. Lillie knows that it's the man of the house who actually buys.

So, when a housewife expresses her desire to have a refrigerator, Mr. Lillie bides his time, giving the woman a chance to drum "refrigerator" into her husband's mind, and then sets out to make the sale.

Usually he allows about a week's leeway, and then one evening he drops in on the prospective customer—poor, unsuspecting husband—and has a smoke and a chat over a glass of beer. Any topic but refrigeration is discussed until Mr. Lillie feels that the husband's confidence has been won, and then he gradually works around to the matter of the refrigerator.

"I've sold dozens of refrigerators in this way," Mr. Lillie said in attesting to the efficiency of his method.

### MARKET SATURATION ONLY 6%

The English refrigeration market has hardly been touched, Mr. Lillie believes, only 6 or 7% of the possible prospects having been sold units up to now.

Two main reasons for the lack of development of the industry are: the public is not educated to refrigeration; the climate is not suited to refrigeration.

"In America," Mr. Lillie said, "refrigeration is practically a necessity. Without it, you'd have butter running all over the place during the summer. Over here it's a different matter. Our weather is comparatively mild, ranging from an average of 40° or so in winter to an average of about 70° in summer. It's a 'heat wave' when the thermometer reaches 80 or 85°."

"What we need to get the public refrigeration-minded is a long spell of hot weather every summer, coupled with a national advertising campaign."

### Mr. English of England Likes Those Hot Days

LEEDS, England—"If we had four or five months of steady hot weather we'd sell plenty of refrigerators," declared Arthur English, head of Arthur English, Ltd. here, in commenting on the refrigeration industry in England.

Having been in the appliance business for about 15 years, Mr. English has watched the refrigerator market grow steadily from a one-or-two-sales-a-year proposition into its present status as a principal part of appliance selling.

At different times he has handled Kelvinator, Lightfoot, Westinghouse, and B. T. H. refrigerators, and for the past six months he has been distributor for H. M. V. units in Leeds and district.

Mr. English sells H. M. V. (His Master's Voice) refrigerators, washers, ironers, radios, and smaller electrical appliances, as well as Bush, Philco, and Phillips radios, and his

firm is registered for electrical contracting and refrigeration engineering.

Estimating that the potential refrigerator market in England is about 6% saturated, Mr. English expressed his belief that there is an increasing demand for household refrigerators, and that when the public realizes the full value of refrigeration, the industry will rapidly expand. Commercial refrigeration, too, is on the upgrade, though at not quite so strong a pace as household.

One factor standing between dealers and prospective customers is the price of the units.

"People will be perfectly willing to pay £20 or more for a vacuum cleaner, but balk when they see the price of a refrigerator. Now, if they'll pay that much for a cleaner, surely they should expect to pay more for a refrigerator, because there's so much more value in the latter. By comparison, a small refrigerator is worth £35 or £40.

### AVERAGE PRICE ABOUT \$250

"The average price for a 5-cu. ft. refrigerator is about £50. People come in, see that price marked on a unit, and immediately ask to see a smaller one. Then they decide the small one is not big enough, and the big one is too expensive. If a prospect is really sold on refrigeration, it isn't hard to sell him the size unit he needs. The refrigerator that is wanted by most families is a 4 or 5-cu. ft. box.

A cooperative promotional campaign to create a buying demand would be a boon to refrigeration in England. At present, there is very little national advertising by the manufacturers, and that means that to "sell" a prospect it is necessary to start from the beginning and do it the long way.

In his territory, Mr. English relies on a lot of newspaper advertising and consistent "cold canvassing" to create prospects.

"The best selling season is when the sun shines," he declared, "and I try to time my newspaper advertising to coincide with the occasional periods of real summer weather. The copy must be snappy to attract attention, and must be convincing enough to strike home while the prospects are in the mood for buying."

In addition to the store clerks, the firm employs two regular salesmen at present to do the outside selling. They compete in regular contests sponsored by the manufacturers, and are given quotas as an incentive.

Whenever an old refrigerator is taken in on the sale of a new unit, it is completely overhauled and placed on the display floor to be resold. Usually the used refrigerators are bought quite readily.

Mr. English has engineered about 50 cooling installations for beer cellars, installing systems comprised of a blower and convection cooler which diffuse cold air into the rooms and maintain the beer at the required temperature.

### In Sweden They Purify Bomb-Proof Air

STOCKHOLM, Sweden—An air purifier for bomb shelters has recently been placed on the market by the Svenska Flakfabriken here. Characterized by simplicity of construction, the parts consist of a centrifugal fan, a purifying unit, and an air volume indicator.

The purifying unit consists of two filters which, according to tests, remove 100% of all war gases from the air.

Air intakes to the shelters are placed on several sides of the shelter and located several feet above the ground. The intakes are protected against fouling by falling material.

The fan is equipped with a direct-driven electric motor, but if the current fails the device may be operated by hand, or, in the larger sizes, by pedals.

Fresh air is blown directly into the room, except in very long shelters, where ducts are used to distribute the air. The air volume indicator tells at a glance whether the right volume of air is being admitted to the room.

Operation of the air purifying system is such that the bomb shelter is kept under pressure to prevent the penetration of gas from the outside. If the pressure becomes too high surplus air is allowed to escape through a safety-valve.

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Quality built; corkboard insulated; porcelain clad; beautifully streamlined. Coiling system is second to none.

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**C. L. PERCIVAL CO.**  
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for Commercial Use

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**REFRIGERATION AND AIR CONDITIONING PARTS.**

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**ELECTRIC WATER COOLERS**

Thoroughly reinforced all steel attractively finished cabinets.

Complete line of different Models and Capacities.

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Gilmer Puts Dollars in Your Pocket with this

**FREE** Gilmer Belt Catalog "AMERICA'S BELT BIBLE" 1939 Edition

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**188 PAGES.. OVER 5700 MODELS.. 149 MAKES** of refrigerators alone. It's Yours FREE... Write today to

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**FORCE FEED LUBRICATION**

**SAFEGUARDS YOUR CHIEFTAIN UNIT**

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Canadian distributor: Refrigeration Supplies Co., Ltd., London, Ontario

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Write for details of this sensational new 100% PORCELAIN Display Case line

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**Use CHICAGO SEALS**

for seal replacements

A complete line in all sizes

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FOR ALL TYPES OF

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**ADD TO YOUR PRODUCT THE REPUTATION OF PENN Controls**

Write for Catalog

**PENN ELECTRIC SWITCH CO.**  
GOSHEN, INDIANA

A COMPLETE LINE OF COMMERCIAL REFRIGERATORS AND DISPLAY EQUIPMENT

STAINLESS STEEL

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**The Most Accurate Control Valve for Small Capacity Systems**

**The "TK" Thermo Valve**

**Alco Valve Co., St. Louis, Mo.**

**A Dehydrator that is really Dry. Mueller Brass Co. Dri-Drier.**

**MUELLER BRASS CO.**  
Port Huron, Mich.

**BUNDY TUBING**

Copper-Braced Steel. Copper Coated Inside and Out. Sizes: 1/2" to 3/4" O.D.

**BUNDY TUBING CO., DETROIT**

**Universal Cooler**

Manufacturers are invited to write for complete details regarding Universal Cooler refrigerating units.

**Universal Cooler Corp., Detroit**

**Anaconda Copper Refrigeration Tubes**

Unusually soft!

**THE AMERICAN BRASS CO.**  
FRENCH SMALL TUBE BRANCH  
General Office: Waterbury, Conn.

**Anaconda**

Illustration of a person using a tube.

**THE AMERICAN BRASS CO.**  
FRENCH SMALL TUBE BRANCH  
General Office: Waterbury, Conn.



## Appliance Sales In TVA Area \$52.50 Per User In Past 12 Months

KNOXVILLE, Tenn.—With refrigerators setting the pace, sales of household electrical appliances to TVA consumers during the 12 months ended June 30, 1939, totaled \$3,687,000, more than double the \$1,612,000 worth of appliances sold in the preceding fiscal year, according to reports of 500 dealers to Tennessee Valley Authority.

Refrigerator sales totaled 8,680 units during the year to lead major appliances by a wide margin. Other sales included 4,288 electric ranges, 1,447 electric water heaters, 629 electric water systems, 4,949 electric washers, and 47,725 other types of appliances.

In the city of Knoxville, which purchased its electric distribution system from a privately owned company last September and operated under TVA rates for about 10 months of the fiscal year, appliance dealers reported a volume of \$1,454,000. There are between 30 and 40 active appliance dealerships in the city.

Average sale per customer amounted to about \$52.50 during the period, compared to about \$54 for the preceding year. Figures are based on the weighted average of customers connected each month.

Number of residential customers, exclusive of government reservations, has increased from 35,800 at the end of the 1938 fiscal year to 106,300 on June 30 of this year, not including customers of the system purchased by the city of Memphis on June 28.

Sale of appliances during the last fiscal year has increased annual consumption of electricity in the TVA area by more than 17,600,000 kilowatt-hours, it is estimated.

## Philadelphia Utility Builds Sales, Load

(Concluded from Page 1, Column 4)

mately six out of every 100 have an electric range, and three an electric water heater.

Merchandising value of these three appliances alone aggregates more than 80 million dollars, the utility estimates. This is in addition to other devices, such as radios, vacuum cleaners, irons, fans, cooking appliances, lamps, lamp bulbs, and related appliances, the value of which cannot be estimated.

Records of Philadelphia Electric Co. reveal that on July 31 the company ended a 12-month period in which the average use per domestic customer in its territory reached 1,000.1 kilowatt-hours, an attainment which has been the utility's goal in a campaign extending for more than a decade.

Significant part of the growth has come during the years of economic depression and instability, the company points out. In 1929, last year before the depression, average use of electricity in the Philadelphia territory was only 498 kilowatt-hours, for which the average customer paid an electric bill of \$31.90 for the year, at 6.44 cents per kilowatt-hour.

For the year ending July, 1939, with an average yearly use of 1,000 kilowatt-hours, the average family paid a bill of \$36.71, at an average cost of 3.67 cents per kilowatt-hour.

In other words, through the employment of labor-saving electrical appliances and other electrical conveniences, the average household in Philadelphia Electric Co. territory uses a little more than twice as much current today as in 1929, pays for it only 15% more than for all the current used in that year, while the cost per kilowatt-hour has been reduced by 43%.

## Couldn't Compete With Gov't., Willkie Says Of Sale To TVA

(Concluded from Page 1, Column 3)

operated utilities than by publicly operated plants," the advertisement declared.

"The State of Tennessee and most of the communities we have been serving have depended, in no small part, upon the taxes they have collected from us to pay the cost of their governmental activities, including school, water, fire, health, and other services.

"Our Tennessee properties paid into local and state treasuries a total of \$2,225,000 from electric revenues, for the 12 months ended June 30, 1939; with federal taxes, the total for this period is about \$2,800,000. That is more than 20 cents out of every dollar received for electric service in Tennessee . . . it amounts to over \$7,670 in taxes for every day of the year.

"All of our facilities in Tennessee have been built with the money of many private investors. The communities never had to increase their debts to build plants and distributing systems; they never had to pay out interest on bonds issued for electric service. The savings of thousands of citizens were brought, and would continue to have been brought, into this territory to help produce more industry, more local wealth, and more steady jobs."

The company pointed out that its rates are much lower than the national average (26%), while average use of electricity is higher (37%) than the average for the nation.

"We have had to sell our electric properties and turn over a splendid organization to the Tennessee Valley Authority and other governmental agencies because we could not stay in business and compete with virtually tax-free and heavily subsidized plants," the advertisement continued.

"Incidentally, our taxes have been multiplying and mounting for years. They are an ever increasing problem . . . a veritable 'headache,' which other taxpayers can well appreciate. To be rid of any tax worries is, of course, always a relief.

"To buy our properties, the municipalities are selling bonds largely tax-free, and TVA is selling government obligations which, in addition, will be a lien upon the incomes of all of us. These tax-free municipal and federal securities will be owned largely outside Tennessee. As a result, much income which citizens of Tennessee received from our company will no longer benefit this community.

"Whenever government takes over a private business," the advertisement declared, "not only does the public lose the benefit of taxes paid directly by the business, but also the substantial taxes paid by the owners of its securities."

The advertisement closes with the hope that Commonwealth & Southern's customers, friends, and associates "will never be required to defend a business of their own against government subsidized competition."

Cities in the area affected were reported to be concerned with tax losses involved in the transaction as compared with profits from public ownership, and Senator Norris (Neb.) and Representative Sparkman (Ala.) have prepared for the next Congress bills which would tax the gross power revenues of TVA in order to compensate states for tax losses resulting from the government power project.

The bill divides the tax payments into two parts—payments on the generating and transmission properties acquired by TVA, and payments on the distribution facilities bought by the municipalities and co-operatives.

Under the present arrangement, TVA pays Tennessee and Alabama 5% of gross revenue; the Norris bill would substitute a 10% payment, decreasing over 10 years to 5%. Contention is that TVA's increasing revenues would result in a substantial payment to the states.

Percentage of TVA's gross revenue to be paid would be allocated among the states, half in proportion to sales within the state and half in proportion to the value of power properties located there. Payment to any state could not be less than the ad valorem taxes paid by the former private owners of the power properties and of inundated lands in reservoir areas allocated to power.

## THE BUYER'S GUIDE

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—with Thermek Heat Transfer Surface

1. Raises back pressure of coil and increases compression efficiency.
2. Utilizes 100% of the coil surface.
3. Reduces friction in the tubing.
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Maintain volume and profit with the new 1939 Pelco line. NEW EXCLUSIVE SELLING ADVANTAGES . . . NEW MODELS . . . NEW DEALER HELPS. "Floating Ice" and "Actionized Cold." We cordially invite you to write.

**PORTABLE ELEVATOR MFG. CO.**  
Refrigeration Division, Dept. A  
BLOOMINGTON, ILLINOIS



## WATER COOLING EQUIPMENT FOR AIR CONDITIONING

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- ☐ One year (52 issues) . . . \$4.00

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### HOUSEHOLD SERVICE MANUALS

- ☐ No. 1. Theories and principles of refrigeration explained in simple terms. 144 pages . . . \$1.00
- ☐ No. 2. Detailed instructions on proper methods of installing and servicing various types of systems. 128 pages. Price . . . \$1.00
- ☐ No. 3. Detailed data on methods of servicing special types of refrigerators. 144 pages . . . \$1.00
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- ☐ No. C-1. The theory and principles of refrigeration presented more completely. 96 pages . . . \$1.00
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- ☐ No. C-3. Continuation of installation and service methods (valves, controls, motors, etc.). 144 pages . . . \$1.00
- ☐ Manual E-1. Dealing with large refrigeration equipment. This book is valuable to operators of industrial refrigeration plants. 224 pages . . . \$2.00

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- ☐ R-1. Appliance Selling Today. Successful sales ideas, promotion plans, and management methods. 128 pages . . . \$1.00

Note: The minimum extra charge for each package of books shipped outside the U. S. is 50 cents. Up to six \$1.00 books may be shipped in one package.

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PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

### POSITIONS WANTED

**EXECUTIVE SALES Organizer.** 18 years' experience in merchandising domestic and commercial refrigeration, central plant and unit air conditioning, automatic heating, washing machines and appliances, through distributors, dealers and large direct sales organizations, for country's top flight manufacturers and merchandisers. Has outstanding record as profitable producer and sales organizer. Is an authority on department store and distributor appliance merchandising. Would make excellent sales manager, branch or division manager for some wide awake manufacturer where a sales producing, good business man is needed. Box 1162, Air Conditioning & Refrigeration News.

**SECRETARY SEEKS** re-employment owing to death of employer. Has worked as bookkeeper, travelling auditor in England, France, fluent French, German. Gained international experience, knowledge of refrigeration parts, trade terms, managed since 1936 New York office of dealer for Carrier's refrigeration parts. Address Jacob, care Rental Library, 310 Central Ave., Leonia, N. J.

**COMMERCIAL REFRIGERATION** field men wanted—An aggressive, nationally known manufacturer of commercial refrigerators is interested in high grade, capable field men contacting distributors and dealers in following territory: New England States, New York State, metropolitan New York, Pennsylvania, New Jersey. This company has brilliant record in refrigeration industry and enviable reputation for quality products. Manufacturing facilities second to none. No objection to men handling one or two allied lines. Box 1171, Air Conditioning & Refrigeration News.

### FRANCHISES AVAILABLE

**COMMERCIAL LINE** refrigerator display cases, walk-in coolers, and refrigerators; also direct draw, mechanically-cooled beer coolers. Sell with Ehrlich compressors or with any other make. Attractive discounts, also financing arrangements to help sell. 70 years in business. Write for full information. **EHRLICH REFRIGERATOR MFG. CO.**, St. Joseph, Mo.

### BUSINESS OPPORTUNITIES

WE ARE desirous to buy, for cash, commercial or domestic refrigeration businesses located in the metropolitan area of New York City. If you have a business of this type which you no longer care to handle, contact Box 1166, Air Conditioning & Refrigeration News, for an appointment at your convenience.

**BUSINESS FOR SALE** in New Jersey: Rare opportunity to take over an estab-

lished commercial and domestic service and sales business. Excellent factory connections for service and installations. Large file active accounts. Well equipped shop—stock of used machines and parts. Service car. Because of health will sacrifice for quick sale. Box 1169, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

**GENERAL ELECTRIC** compressors and motors, Frigidaire compressors and Delco motors; brand new 1/2, 3/4 and 1 1/2 Hi Side units; complete with Square D low pressure or temperature controls. Low prices, money back guarantee. New Electromatic water valves, type WRP 3/4"—lots of six—\$3.95 each. **MARTIN SPECTOR**, 520 East 20th St., New York City.

**SPECIAL NEW** Mullins evaporators in original cartons. Overall dimensions, 10 in. wide, 9 1/2 in. high, 11 in. deep. Come packed 2 in each carton. These evaporators are less floats and are factory sealed. Prices as follows: One carton of 2, \$4.00; in lots of 10, \$3.50 per carton of 2; in lots of 25, \$3.00 per carton of 2. **REFRIGERATION SURPLUS JOBBERS**, 545 Woodland Ave., Cleveland, Ohio.

**FOR SALE:** Universal Cooler methyl chloride twin cylinder compressors. Factory No. 80783, bore 1 1/2 inch, stroke 1 1/4 inch. Require only minor repairing. Guaranteed not stuck up. Priced for immediate sale at \$3.00 each in lots of 100 or \$3.50 each in lots of 25. **F.O.B. HUMMER MANUFACTURING COMPANY**, Springfield, Illinois.

### REPAIR SERVICE

**GENERAL ELECTRIC** DR1 and DR2 Monitor Top units exchanged, \$30.00 F.O.B. our factory. Send your defective unit. On receipt, we make immediate shipment of completely rebuilt, refinished unit with one year unconditional guarantee. Like new in every respect. Westinghouse and Servel hermetic units rebuilt and guaranteed. **REFRIGERATION MAINTENANCE CORPORATION**, 321-27 East Grand Avenue, Chicago, Illinois.

**G.E. and Westinghouse** hermetic units rebuilt with factory equipment. **G.E. DR1-DR2**—\$30.00; **Westinghouse** \$27.50; one year guarantee, prices on other models on request. Deal with the original hermetic unit rebuilders—**REX REFRIGERATION SERVICE, INC.**, 2226 S. State St., Chicago, Ill.

**CONTROL REPAIR** service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. **HALETRIC LABORATORY**, 1793 Lakeview Road, Cleveland, Ohio.

### PATENTS

**HAVE YOUR** patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. **H. R. VAN DEVENTER (ASRE)**, Patent Attorney, 342 Madison Avenue, New York City.



## Dealers Unite To Recommend Policies on Merchandising For Nashville Power Board

(Concluded from Page 1, Column 5)  
of John R. Cherry, formerly merchandise manager of the Nashville division of the Tennessee Electric Power Co. Newspaper advertising promotion has already been started, the advertising playing up the "savings" to be realized from TVA power, and telling how much it will cost monthly to operate the average-sized refrigerator or range.

Also, all makes of appliances are now being displayed at the power board headquarters and leads obtained at this spot will be turned over to distributors, who in turn will pass them on to dealers.

In making the announcement that the power board would withdraw its plan of merchandising electrical appliances, Chairman W. C. Baird of the board left a loophole by which the city can re-enter the retailing field:

"... the power board wishes to announce that it is acceding to the views of these merchants and will be glad to leave the entire field of appliance selling to the dealers—deferring our own proposal of appliance sales for any reasonable period of time required by the dealers to show that they can obtain the heavy volume so necessary to our success."

### MOVE WAS SHOCK

When the power board announced its original plan of entering the appliance retailing field, the dealers were taken by surprise. As reported by staff members of AIR CONDITIONING & REFRIGERATION NEWS earlier in the year, they had been completely confident that the city, once it was distributing TVA power, would not compete with them in the appliance business.

Announcement of the original plan was in the form of a letter from J. P. W. Brown, general manager of the city power system (which has just been named "Nashville Electric Service"), which said in part:

"... The power board is committed to a serious responsibility in making a success of distributing TVA electricity at the lowered rates. It is a positive conclusion that this success can be obtained in no other way than by a great build-up of revenues. These increased revenues can be produced through no other means than by inducing the public to make a much wider use of all the current-consuming devices. This, in turn, means that the electric system and all the dealers together must sell the largest volume of heavy current-consuming devices ever sold in Nashville.

### JUST ANOTHER DEALER?

"What I personally have recommended is that the power board authorize an intensive program of advertising and sales promotion here, designed to help all dealers sell more appliances than they ever have sold before, with our own sales department being just one dealer among the other 45. I do know that past records, year in and out, have proved that dealer sales were invariably higher when the power company itself was selling and stimulating the field. Actual figures prove, also, that dealer sales have been at their lowest when the power company was not selling, such as the last three months—and to a larger extent for the many months preceding the sale of the Tennessee Electric Power Co.

"I am writing to have you know, on my personal word, that every sales activity of our department here will be conducted on the highest and fairest plane. There will be no price-cutting, no complications from unfair trade-in allowances, and no policy or practice that will be injurious to any dealer. I assure you of this. Also, in the interest of keeping all power board money at home, we propose to buy all appliances and equipment strictly from Nashville manufacturers, distributors, and jobbers, which will be of real help, we hope. . . ."

If the Nashville dealers were knocked off their feet by this announcement, they scrambled up without taking any count and immediately assumed an offensive. Before the day was out they had organized a protest meeting for which John Sloan of the Cain-Sloan Co. was named chairman, and asked the power board officials and the mayor

of Nashville to attend and hear them out.

Mr. Brown (general manager of the board) two members of the board, together with some city officials, met with the dealers the next day. Mr. Sloan told the group that all dealers, and all distributors but one, were in opposition to the city selling appliances. He asked the power board representatives to put off any plans for entering the field of appliance retailing until after dealers had been given a chance to show whether or not they could sell enough equipment to increase electrical consumption in the city.

### SLOAN STATES DEMANDS

"This country is built on the principle of private enterprise," Mr. Sloan declared at the protest meeting. "Cities have operated power plants before. It was our understanding the city would not go into the retail appliance business.

"They assume we retailers can't do this job. They should at least give us a chance."

Mr. Sloan then introduced Mr. Brown, who referred to the situation as a "great misunderstanding."

"The only way we will be able to put the TVA over here will be by a large increase in business," the power board general manager stated. "We will have to cooperate. Whenever the dealer can sell an appliance, the power board salesman will back away."

"The Tennessee Electric Power Co. cut off half its salesmen in August, 1937 and your sales of retail appliances slumped. I don't see what you are going to do if we don't stir up a field for selling and get the women to buy."

"We are willing to put salesmen out on a salary plus bonus basis. In other words, if our salesmen help your salesmen to make a sale, they will make just as much as if they sold the appliance themselves."

### ONE RANGE PER MONTH

Mr. Brown quoted statistics to show that Nashville dealers had sold only 303 electric ranges in the past six months, or an average of only a little more than one sale per month per dealer.

Mr. Sloan took the floor as soon as Mr. Brown had completed his talk and stated:

"The best way you can help appliance selling here is to remove the \$20 fee for installing a range and \$15 for a water heater."

Tom Holt, furniture and appliance dealer, next took the floor.

"My opinion is," he said, "that retail dealers never have had a fair chance with the power company competing with them. A customer has to go to the power company to pay his light bill and there he sees the merchandise on display. You other dealers know that the first problem is to get the customers into the store. The power company has always been able to get the customer in without any effort. We haven't had half a chance to sell appliances with this kind of competition."

"And another thing I would like to know is the moral and legal right of the city to enter into competition with private enterprise. And whether or not they will pay privilege and ad valorem taxes as we do."

### TAXPAYER PROTEST

W. A. Beesley, another dealer, stated:

"There is one thing at issue here. The taxpaying public are the very people who make possible the power board, and if the city goes into competition with the very people who make the TVA possible, where is it going to end?"

Percy Cohen, a furniture dealer, added his voice in opposition to the plan and suggested that if it was allowed it would be the beginning of a long series of business enterprises that the government might attempt.

At a meeting later of appliance dealers Mr. Sloan appointed a committee to draft recommendations to be submitted to the power board. The committee consisted of the following: W. A. Beesley, chairman; Walton McJordan, J. O. Smith, and Roy Hatfield.

The committee met immediately after the meeting and drew up the following recommendations:

"1. We feel that it is the function

of the power board to facilitate the use of electric current to increase the load and therefore—

"Recommend that the power board deliver electric current to the outlet when new equipment is purchased by the consumer; and also to present owners of equipment.

"2. We recommend that the Nashville Power Board service all makes and types of electric equipment, refrigerators, washing machines, ranges, heaters, fans, etc., if requested by the dealers, regardless of the source of supply, on the same cost basis.

"3. We recommend that the Nashville Power Board confer with the Committee of Electric Appliance Dealers in developing an advertising and promotional program.

"(a) That all dealers and distributors be notified of this advertising program in advance so that they can tie in their own promotional plans with the cooperative program.

"(b) That the power board refrain from employing any outside salesmen.

"(c) That the power board maintain an adequate and efficient home economics department to educate the customer on the advantages of using more current.

"(d) That the power board refrain from displaying any electrical equipment by trade name in its show rooms."

This committee later reported as follows:

"On Tuesday, Aug. 8, these recommendations were presented to Mr. Brown. After discussing the various suggestions, Mr. Brown asked the committee to submit a plan for putting into effect several of the recommendations.

"The committee met again on Thursday, Aug. 10, and reaffirmed its former position.

### RECOMMENDATIONS

"The following resolution was submitted to Mr. Brown on Aug. 12—

"1. We feel that it is the obligation of the Nashville Power Board to deliver electric current to the outlet and the responsibility of the dealers to sell the electric appliances.

"We, therefore, recommend and strongly urge the Nashville Power Board to assume the whole responsibility for the installation of electrical appliances after they have been sold by the dealers.

"2. A Committee of Service Men has been appointed to work out a plan for the servicing by the Nashville Power Board of all makes and types of electrical equipment which will be submitted for the approval of the Board as soon as possible.

"3. A special committee has conferred with Ward Mayborn, relative to securing a better rate for the newspaper advertising program which is contemplated by the board and hopes for a favorable reply.

"(a) We reiterate our position with regard to outside salesmen and strongly urge the power board to refrain from employing outside salesmen. We believe that it is impossible to pro-rate prospective customers among the dealers on any satisfactory or equitable basis.

"(b) A committee has been appointed to work out a plan for displaying merchandise in the showrooms of the power board that will be fair to all distributors.

"(c) It is our opinion that bulbs are merchandise. Since it has been announced that the power board will

not sell merchandise, we believe that bulbs should be included in this category and that the board should refrain from selling them."

"Mr. Brown has informed us that he will recommend to the board that they use the same plan in regard to installation as is now used in Knoxville, which is for the power board to pay \$15 toward the installation of ranges and \$7.50 for heaters.

"Mr. Brown will arrange for the installation or the dealer may have this done separately. He also stated that the power board will assume responsibility for removals; in which case they would stand for \$15 of the removal cost and bill the customer with the difference.

"Mr. Brown insists on keeping outside salesmen, but he is willing to adopt any practical plan for pro-rating the prospects among the dealers.

"Mr. Brown has accepted the recommendations of the committee to refrain from the sale of light bulbs. However, the home lighting division will be maintained and orders for light bulbs will be pro-rated among the dealers of standard lamps.

"A committee is now working on a plan for servicing all appliances and it is hoped that some plan can be developed that will be acceptable both to the dealers and to the power board."

The electrical contractors in Nashville are said to be attempting to get a working agreement with the power board about the wiring and installation of water heaters to keep it out of the hands of what they call "curb stoners" or irresponsible workers, but thus far the board has apparently tried to wash its hands of this problem.

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